```
October 21, 2001, 18:18:09; Search time 7124 Seconds (without alignments) 11995.973 Million cell updates/sec
                                                                                                          US-09-515-806-1
5525
1 tcgccccacgcgtccgcacc.....aatgctttcatatacctgca 5525
                                                                                                                                                                                                                                  2688314
GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
                                                                                                                                                                                                                                  Total number of hits satisfying chosen parameters:
                                                                                                                                                                                       1344157 segs, 7733874588 residues
                                                                                                                                                                                                                                                                                       Post-processing: Listing first 45 summaries
                                            OM nucleic - nucleic search, using sw model
                                                                                                                                                      OLIGO_NUC
Gapop 60.0 , Gapext 60.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       em_htg_inv2:*
em_htg_other:*
em_htg_rod:*
em_htg_rod:*
                                                                                                                                                                                                                                                                                                                   9b.ba1:*
9b.ba2:*
9b.ba3:*
9b.ln1:*
9b.ln3:*
9b.ln3:*
9b.pa1:*
9b.pa1:*
9b.pa1:*
9b.pa1:*
9b.pa1:*
9b.pl1:*
9b.pl1:*
em.ba2:*
em.htgo.hum:*
em.htgo.hum:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             em_htg_hum6:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            em_htg_inv1:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            em_htg_hum3:*
em_htg_hum4:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   em_htg_hum5:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        em_htg_hum7:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  em_htg_hum8:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   em_htg_hum2:*
                                                                                                                                                                                                                                                      Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  em_hum2:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             em_hum3:*
                                                                                                                                                                                                                                                                                                             GenEmbl:*
                                                                                                                                                                                                                                                                                                                                                                                                                       Title:
Perfect score:
Sequence:
                                                                                                                                                       Scoring table:
                                                                                                                                                                                                             Word size :
                                                                                                                                                                                                                                                                                                            Database :
                                                                                                                                                                                       Searched:
                                                                  Run on:
```

	results predicted by chance to have a
em_par: ** em_par: ** em_pl: ** em_pl: ** em_pl: ** em_loi: ** em_ro: ** em_	the number of
44444 44444 44444 44444 44444 44444 4444	is t
	No.
	ed.

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Description	AX056426 Sequence	AB037759 Homo sapi	AL157497 Homo sapi	AK027011 Homo sapi	AJ243428 Homo sapi	AL137627 Homo sapi	AL137676 Homo sapi	AC012138 Homo sapi
OI.	AX056426	AB037759	HSM802494	AK027011	HSA243428	HSM802391	HSM802022	AC012138
DB	6	85	93	8	93	93	93	62
Query Match Length DB ID	92.4 5163	4994	3351	2986	2162	1138	1917	164297
Query Match	92.4	88.3	60.3	48.0	38.2	18.7	16.6	σ
Score	5107	4878	3332	2650	2111	1032	919	530
Result No.		2	10% Y. / 3	マンショ	,	9	7	ď

em\_hum5:\* em\_hum6:\*

em\_hum7:\*

em\_in:\* em\_om:\* em\_or:\*

em\_hum4:\*

HOMO HOMO HOMO HOMO HOMO Mus	AC020998 Mus muscu AR037759 Homo sapi AF193342 Mus muscu AF193343 Mus muscu AF193344 Mus muscu AC087121 Mus muscu AC087121 Mus muscu AC133444 Homo sapi AL133444 Homo sapi	AC011825 Homo sapi AJ27757 Homo sapi AJ27757 Homo sapi AL02237 Human DNA AC006071 Homo sapi AC002092 Homo sapi Continuation (3 of AL35375 Homo sapi AC072093 Homo sapi AC015820 Homo sapi AC07586 Homo sapi AC07546 Homo sapi AC007546 Homo sapi AC007546 Homo sapi AC0880004 Homo sapi AC390841 Homo sapi AC088004 Homo sapi AC089004 Homo sapi AC093300 Homo sapi AC089004 Homo sapi AC09330 Homo sapi AC09330 Homo sapi AC04330 Homo sapi	13-JAN-2001
			PAT
AC025168 AC021755 AC090997 AC090997 AC01237 AC012138 AC012138	AU0.298 AF193342 AF193343 AF193344 AC087124 AC087121 CNS01DV0 HS733D15	AC001825 HAA277557 HAS191B2 AC006071 AC002092 AC018724_2 AC01583755 AC020934 AC015830 AC023020 AC023020 AC023020 AC023200 AC005335 AC005335 AC005335 AC0023200	ALIGNMENTS DNA nt WO0073469.
669 78 78 78 78 78	994 944 777 777 92	88888888888888888888888888888888888888	bp Pater 2913
8 173364 4 157900 8 61029 1 61029 8 197610 6 15212 6 5212		9 155952 9 171222 171222 9 60828 9 60828 9 10000 9 110000 9 110000	5163 bp 70 from Patent .1 GI:12229133
00000001- 84818964	444444000	000000000000000000000000000000000000000	6426 ence 6426 6426
539 519 211 171 152 89	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	AX056426 Sequence AX056426 AX056426
c c 110 9 113 115 115 115 115 115 115 115 115 115		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	RESULT 1 AX056426 LOCUS DEFINITION ACCESSION VERSION KEYWORDS

```
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 5163) Protein kinases Protein kinases Protein kinases Patent: WO 0073469-A 70 07-DEC-2000;
                                                                                                                                                                                                                        1213
                                                                                                                                                                                      /organism="Homo sapiens"
/db_xref="taxon:9606"
1177 c 1283 g 1213
                                                                                                                                                       Location/Qualifiers
                                                                                                                                                                                                                          1283 g
                                                                                                                                                                        .5163
                                                                                                                                      Sugen, Inc. (US)
                         Homo sapiens
                                                                                                                                                                                                                          ø
                                                                                                                                                                                                                       1490
        human.
                                                                                                                                                                          source
                       ORGANISM
                                                                                                                                                                                                                     BASE COUNT
ORIGIN
                                                                     REFERENCE
                                                                                        AUTHORS
                                                                                                                         JOURNAL
SOURCE
                                                                                                                                                      FEATURES
```

1086

; 0

Gaps ; 0

DB 9; Length 5163; 1; Indels

92.4%; Score 5107; E 100.0%; Pred. No. 0; ive 0; Mismatches

Query Match
Best Local Similarity 100.
Matches 5157; Conservative

9

49

ò 쉽

agtggcagaaaaaatgggtccattccttaccagtcaagaaaagagaagattgataagt 1068 AGTGGCAGAAAAAATGGGTCCATTCCTTACCAGTCAAGAAAAAGAGAAAATGATAAGT 1025 gcaaaaagcagattcaaggaacagaaacagaattcaactcactggtaaaattgagccatc 1128 125 228 185 288 245 348 305 408 365 468 425 528 485 588 545 648 605 708 665 768 725 828 785 888 845 948 atttagttttgtaccctcaaggcctaactggtgaagaagtatatgtaaaagtggatttga cggagagetacccgcaacgacaggaccacgaggttacaggccctggaggccatctacggcg cggacttccaagacctgcggccggacgcttgcggaccggtcaaagagccccctgaaatca agcataacaagcccctcccaagtctttcatgaagaaatgctggaaaggcgggctcagg 529 aggagcagcagaggctgttggaggccaagcggaaagaagaagcaaggaaccatgaaatcc ctaagcaggaacgtttggaaattgctagtttgtcaaaccaagatcatacctctaagaagg atggtaaacatcgggcaaactcctcaggaaggtctaggcgagaacgtcagtattctgtat gtaatagtgaagattctcctggctcttgtgaaattctgtatttcaatatgggggggtcctg atcagctcatggtgcacaaagggaaatgtattggcagtgatgaacaacttggaaaattag GCAAAAAAGCAGATTCAAGGAACAGAAACAGAATTCAACTCACTGGTAAAATTGAGCCATC 606 CTAAGCAGGAACGTTTGGAAATTGCTAGTTTGTCAAACCAAGATCATACCTCTAAGAAGG 366 229 109 169 469 649 829 889 1009 996 1026 409 169 786 1069 1129 g ò g ρý qq ð g δλ g QΥ q  $^{\circ}$ g οy Op δŻ Q οy g Qγ Pp q Ω qq Ωp qq δ Qγ QΛ δλ Op q QQ οy Óχ

1248 1205 1308 1265 1368 1325 1428	488 444 548	1608 1565 1668 1625	1728 1685 1788 1745	1848 1805 1908 1865	1968 1925 2028 1985	2088 2045 2148 2105	2208	2268 2225 2328
acattttagtggagcacattagtggggtctctcttgctgcaccactgagccactcaggcc 	aggatgtgtttgagcaaaccggagttcgttttagtgacaatgctctgccttataaaacg 	aatgiggagatacccigtgaccatccctagtgacttaccagctgactttcaagattttc	acagctttataaatccccagccaaaatgcctctagtggaacaaagtcctgaagattctg	ttagtgagacacagagacagttttcccgatacttcattgagtttgaagaattacaacttc 	acgcagtgaagcgcatcccatcaacccggccagccagttccgcaggatcaagggcg 	tcgagcggcacgagcggcgggagccggacgcccccggactccgggccctgg	tagaggccgccgcgccacccatcctcagcagctcggtggagtggagcattcgggcg 	agogctoggccagtgcccgtttccccgccaccggcccgggcccagcgatgacgaggacg 
1189 1146 1249 1206 1309 1369	4 4 8 8	1549 1506 1609 1566	1669 1626 1729 1686	1789 1746 1849 1806	1909 1866 1969 1926	2029 1986 2089 2046	2149	2209 2166 2269
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	oy oy	oy Oy Db	Oy Oy Dp	9 9 9 9 9	0y 0y 0b	0y 0y 0b	Qy	Oy Oy

2748 3048 2448 2405 2508 2465 2568 2628 2585 2688 2645 2705 2808 2765 2868 2825 2928 2885 2988 2945 3005 3108 3065 3168 3125 3228 3185 3288 3245 3408 ogcagogcatctcccctgccatcgattacacctatgacagogacatactgaagggcaact atgagcacaacgaagctgcctattcatggaccacagcgggatgctggtgatgcttcctt 2706 GTCACTTAACTGGGATGGTTGGCACTGCTCTATGTAAGCCAGAGGTCCAAGGAAGCA 2766 CCAAATCTGCATACAACCAGAAAGTGGATCTCTTCAGCCTGGGAATTATCTTTGAGA 2946 CAGTCATCTCTGGCTGTTGAACCACGATCCAGCAAACGGCCCACAGAGCTGC tcaagagtgagctgctgccccagatggaggaggagtcagagctgcatgaagtgctgc accacacyctyaccaacytygatyggaagycctaccycaccatyatygcccayatcttct aaagacatggagctgttcagttgtgtactccactactgcttccccgaaacagacaaatat tggattctgatgaccatgtgaaaataggtgattttggtttggcgacagaccatctagcct 2586 FGGATTCTGATGACCATGTGAAAAATAGGTGATTTTGGTTTGGCGACAGACCATCTAGCCT tttctgctgacagcaaacaagacgatcagacaggagacttgattaagtcagacccttcag gtcacttaactgggatggttggcactgctctctatgtaagcccagaggtccaaggaagca ccaaatctgcatacaaccagaaagtggatctcttcagcctgggaattatcttctttgaga TGTCCTATCACCCCATGGTCACGGCTTCAGAAAGGATCTTTGTTCTCAACCCAACTCAGAG cagtcatctcctggctgttgaaccacgatccagcaaaacggcccacagccacagaactgc 3006 TCAAGAGTGAGCTGCTGCCCCCCCCCGGATGGAGGAGTCAGAGTCAGAGTGCATGAAGTGCTGC AAAGACATGGAGCTGTTCAGTTGTGTACTCCACTACTGCTTCCCCGAAACAGACAAATAT 2286 2406 3246 2226 2329 2449 2629 2689 2646 2749 2869 2826 3049 3109 3066 3126 3349 2809 2929 2989 3169 3289 g ōγ q οy P ōλ Q Q Db δ Q οχ Db δ QQ δŽ QΩ οy QQ οy qq δ d ΩŽ g ò g g ò qq Qγ g δy δy οy

7		
2	3306	ATGAGCACACAAGGTGCCCTATTCATGGACCACAGGGGATGCTGGTGATGCTTCCTT 3365
Oy Db	3409	ttgacctgcggatcccttttgcaagatatgtggcaagaaataatattgaatttaaaac 3468 
Oy Dp	3469	ogatttcatcccaaagaac 352 
Qy Db	3529	paccacagetttctgcccactgctg 35)
Oy Dp	3589 3546	abattatctacactatctatgaaatcatccaagagtttccagcacttcaggaaagaaa
Qy Db	3649	acagtatttatttgaaccataccatgttattgaaagcaatactcttacactgtgggatcc 3708 
Oy Dp	3709	cagaagataaactcagtcaagtctacattattctgtatgatgctgtgacagagaagctga 3768 
Qy Db	3769	cgaggagagagatggaagctaaatttgtaatctgtctttgtcttctaatagtctgtgtc 3828 
Qy Dp	3829	8 4
Qy Dp	3889	cattaataaaacagaaaacaggtattgcacagttggtgaagtatggcttaaaagacctag 3948 
Qy Db	3949	aggaggttgttggactgttgaagaaactcggcatcaagttacaggtcttgatcaatttgg 4008 
Qy Db	4009	gcttggtttacaaggtgcagcagcacaatggaatcatcttccagtttgtggctttcatca 4068 
Oy Db	4069	aacgaaggcaaagggctgtacctgaaatcctcgcagctggaggcagatatgacctgctga 4128 
Qy Db	4129	ttccccagtttagagggccacaagctctggggccagttcccactgccattggggtcagca 4188 
oy Ob	4189	tagctatagacaagatatctgctgctgtctctcaacatggaggaatctgttacaataagct 4248 
Qy Dp	4249	cttgtgacctcctggttgtaagtgttggtcagatgtctatgtccagggccatcaacctaa 4308 
Qy Db	4309	cccagaaactctggacagcatcacagcagaaatcatgtacgactggtcacagtccc 4368 
δ Op	4369	aagaggaattacaagagtactgcagacatcatgaaatcacctatgtggcccttgtctcgg 4428 
Oy Dp	4429	ataaagaaggaagccatgtcaaggttaagtcttcgagaaggaaaggcagacaga
•		ť

```
which
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          20181126
2 (bases 1 to 4994)
Ohara,O., Nagase,T. and Kikuno,R.
Direct Submission
Submitted (31-JAN-2000) to the DDBJ/EMBL/GenBank databases. Osamu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens brain cDNA to mRNA, clone_lib:pBluescriptII SK plus clone:fh16948.
                                                                                                                                                                                                                                                        4968
                                                                                                                                                                                                                                                                                                                                                                                       4788
                                                                                                                                                                                 4686 CTCGACTTCAGACCTCCCTTGCCAACTTACATCAGAAAAGCAGTGAAATTGAAATTCTGG 4745
                                                                                                                                                                                                                                                                                                                                            4789 ctgtggatctacccaaagaaacaatattacagtttttatcattagagtgggatgctgatg 4848
                                                                                                                                                                                                                                     4805
                                                                                                                                                                                                                                                                                                                         4925
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Nagase_T., Kikuno,R., Ishikawa,K.I., Hirosawa,M. and Ohara,O. Prediction of the coding sequences of unidentified human genes. XVI. The complete sequences of 150 new cDNA clones from brain woode for large proteins in vitro
DNA Res. 7 (1), 65-73 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AB037759 4994 bp mRNA PRI 14-MAR-2000 Homo sapiens mRNA for KIAA1338 protein, partial cds. AB037759.1 GI:7243056
                                                                                                                                                                                                                                                                                                  4446 GTGTGCTGGAGACTTGTAGTGTACTGTACTGCAGAAACTGAGGACTAAAGTCACTG
                                        gtgtgctggagactgaacttgtggaccatgtactgcagaaactgaggactaaagtcactg
                                                                                                                                                                       ctcgacttcagacctcccttgccaacttacatcagaaaagcagtgaaattgaaattctgg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 (sites)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 2
AB037759
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                JOURNAL
MEDLINE
REFERENCE
AUTHORS
TITLE
JOURNAL
4489
                                                                                                         4566
                                                                                    4609
                                                                                                                                                                       4729
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KEYWORDS
SOURCE
 δy
                 P
                                          δý
                                                         Db
                                                                              οy
                                                                                                   g
                                                                                                                             Qγ
                                                                                                                                               QQ
                                                                                                                                                                      Ω
                                                                                                                                                                                       g
                                                                                                                                                                                                           Ω
                                                                                                                                                                                                                                Dp
                                                                                                                                                                                                                                                         δλ
                                                                                                                                                                                                                                                                         Q
                                                                                                                                                                                                                                                                                              QY
                                                                                                                                                                                                                                                                                                                    Db
                                                                                                                                                                                                                                                                                                                                              Qγ
                                                                                                                                                                                                                                                                                                                                                              qq
                                                                                                                                                                                                                                                                                                                                                                                   QY
                                                                                                                                                                                                                                                                                                                                                                                                           Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                  qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δy
```

us-09-515-806-1.rge

S

```
LOWQKKWGPFLTSQEKEKIDKCKKQIQGTETBFNSLVKLSHPNVVRYLAMNLKEQDDS
TVOLILVBHISGVSLAAHLSHGPIPHYHQLRRYTAQLISGSLDYLHSNSVVHKVLEASN
VLVDABGSTVKTTDYSISKRLADICKEDVFBCDTRYRTSGLISGLDYLHSNSVHKVLGASN
VLVDABGSTVKTTDYSISKRLADICKEDVFBCDTRVRFSDNALPYKTGKKGDVMRLGLLL
LSLSQGCBCGEYPVTIPSDLPADFQDFLKKCVCLDDKERWSPQQLLKHSFINPQPKMP
LVPQSPEDSGGQDYVETVIPSNRLPSAFFSEFTORQESKTFIEBELGLIGKGKARGAV
IVPQSPEDSGGDYVETVIPSNRPRIPSAFFSFFTORGESKTFIEBELGLIGKGKARGAV
IVVQNRLDGCCYAVRTIPINASRQFRRIKGEYTLLSRLHHENIVRYNAMIEBHERP
AGPGTPPPDSGPLAKDDRAARGQPASDTDGLDSVEAAAPPPILLSSSVEWSTSGERSAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ARFPATGPGSSDDEDDEDGHGGVFSQSFLPASDSESDIIFDNEDENSKSQNQDEDCN
EKNGCHESEPSVTTEAVHYLYIQMEYCEKSTLRDTIDGGLYRDTVRLWRLFREILDGL
AYIHEKGMIHRDLKPVNIFLDSDDHVKIGDFGLATDHLAFSADSKQDDQTGDLIKSDP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ARNNILNIKRYCI ERVFRPRKLDRFHPKELLECAFDIVTSTTNSFLPTAEIIYTIYEI
IQEPPALQERNYSIYLNHTMLLKAILHENGIPEDENLSQYYTILDYDAYREKLTRRREVEA
RORLISLSSNSLCELYKFIEGEOLODILMPTUNSLIRQKTGTAQLWYGLKDEEVVG
LLKKLGIKLQVLINLGLVYKVQQHNGIIFQFVAFIKRRQRAVPEILAAGGRYDLLIPQ
Obara, Kazusa DNA Research Institute, Laboratory of DNA Technology; 1532-3 Yana, Kisarazu, Chiba 292-0812, Japan (E-mail:cdnainfo@kazusa.or.jp, URL:http://www.kazusa.or.jp/huge/, Tel:+81-438-52-3913, Fax:+81-438-52-3914)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /translation="LLLFFPLGLQQPLLLLLSPPFQHEIQRRKEEIKEKKRKEMAKQ
ERLEIASLSNQDHTSKKDPGGHRTAAILHGGSPDFVGNGKHRANSSGRSRRERQYSVC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SGHLTGMVGTALYVSPEVQGSTKSAYNQKVDLFSLGIIFFEMSYHPMVTASERIFVLN
QLRDPTSPKFPEDFDDGEHAKQKSVISWLLNHDPAKRPTATELLKSELLPPPQMEESE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LHEVLHHTLTNVDGKAYRTMMAQIFSQRISPAIDYTYDSDILKGNFSIRTAKMQQHVC
ETIIRIFKRHGAVQLCTPLLLPRNRQIYEHNEAALFMDHSGMLVMLPFDLRIPFARYV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QKLWTAGITAEIMYDWSQSQEELQEYCRHHEITYVALVSDKEGSHVKVKSFEKERQTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KRVLETELVDHVLQKLRTKVTDERNGREASDNLAVQNLKGSFSNASGLFEIHGATVVP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IVSVLAPEKLSASTRRRYETQVQTRLOTSLANLHQKSSETEILAVDLPKETILQFLSL
EWDADEQAFNTTVKQLLSRLPKQRYLKLVCDEIYNIKVEKKVSVLFLYSYRDDYYRIL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NSEDSPGSCEILYFNMGSPDQLMVHKGKCIGSDEQLGKLVYNALETATGGFVLLYEWV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FRGPQALGPVPTAIGVSIAIDKISAAVLNMEESVTISSCDLLVVSVGQMSMSRAINLT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 769
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      883
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            taagcaggaacgtttggaaattgctagtttgtcaaaccaagatcatacctctaagaagga 709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cccaggaggacacagaacggctgccattctacatggaggctctcctgactttgtaggaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   taatagtgaagatteteetggetettgtgaaattetgtattteaatatggggagteetga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCCAGGAGGACACAGAACGGCTGCCATTCTACATGGAGGCTCTCCTGACTTTGTAGGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        tggtaaacatcgggcaaactcctcaggaaggtctaggcgagaacgtcagtattctgtatg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             246 TGGTAAACATCGGGCAAACTCCTCAGGAAGGTCTAGGCGAGAACGTCAGTATTCTGTATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 85; Length 4994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                             /note="Start codon is not identified.
/codon_start=1
                                                                                                                                                                                                                                                    SK plus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               /product="KiAA1338 protein"
/protein_id="BAA92576.1"
/db_xref="GI:7243057"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  88.3%; Score 4878; D
100.0%; Pred. No. 0;
iive 0; Mismatches
                                                                                                                                                                                                                                                    /clone_lib="pBluescriptII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1217
                                                                                                                                 1. .4994
/organism="Homo sapiens"
/db_xref="taxon:9606"
/clone="fh16948"
                                                                                                                                                                                                                                                                           /tissue_type="brain"
1. .4488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1198 g
                                                                                                                                                                                                                                                                                                                              /gene="KIAA1338"
<1. .4488
                                                                                                                                                                                                                                                                                                                                                                                   /gene="KIAA1338"
                                                                                                                                                                                                                                                                                                                                                       .4488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1130 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches 4928; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           770
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      830
                                                                                                                                                                                                                                                                                                          gene
                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                          CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
```

```
1429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1025
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1085
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1729
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1789
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1969
                                                                                                                                                                                                            1129
                                                                                                                                                                                                                                                                        1189
                                                                                                                                                                                                                                                                                                                                                                                             1309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1386 CGCAGTGAAGCGCATCCCCATCAACCCGGCCAGCCGGCAGTTCCGCAGGATCAAGGGCGA 1445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               905
                                                                                                                                                                                                                                                                                                                                                                                                                           785
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     845
                                                                                                                                                                                                                                          605
306 TAATAGTGAAGATTCTCCTGGCTCTTGTGAAATTCTGTATTTCAATATGGGGAGTCCTGA 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                         1310 gcacagcaattctgtggtgcataaggtcctgagtgcatctaatgtcttggtggatgcaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ggatgtgtttgagcaaacccgagttcgttttagtgacaatgctctgccttataaaacggg
                             toageteatggtgcacaaagggaaatgtattggcagtgatgaacaacttggaaaattagt
                                                                                                                                                                                                               caaaaagcagattcaaggaacagaaacagaattcaactcactggtaaaattgagccatcc
                                                                                                                                                                                                                                                                        1130 aaatgtagtacgctaccttgcaatgaatctcaaagagcaagacgactccatcgtggtgga
                                                                                                                                                                                                                                                                                        cattttagtggagcacattagtggggtctctctttgctgcacacctgagccactcaggccc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1550 atgtggagagtaccctgtgaccatccctagtgacttaccagctgacttcaagatttct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1086 AAAGAAATGTGTGTGGTTGGATGACAAGGAAAGATGGAGTCCCCAGCAGTTGTTGAAACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1670 cagetttataaaateeecageeaaaatgeettetagtggaacaaagteetgaagattetgg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1730 aggacaagattatgttgagactgttattcctagcaaccggctacccagtgctgccttctt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1790 tagtgagacacagagacagttttcccgatacttcattgagtttgaagaattacaacttct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1326 TGGTAAAGGAGCTTTTGGAGCTGTCATCAAGGTGCAGAACAAGTTGGACGGCTGCTGCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cgcagtgaagcgcatccccatcaacccggccagccggcagttccgcaggatcaagggcga
                                                                                                                      CTACAATGCTTTGGAAACAGCCACTGGTGGCTTTGTCTTGTTGTATGAGTGGGTCCTTCA
                                                                                                                                                                                  486 GTGGCAGAAAAAATGGGTCCATTCCTTACCAGTCAAGAAAAAGAGAAAATTGATAAGTG
                                                                                                                                                                                                                                                                                                                                                  GCACAGCAATTCTGTGGTGCATAAGGTCCTGAGTGCATCTAATGTCTTGGTGGATGCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             906 GGATGTGTTTGAGCAAACCCGAGTTCGTTTTAGTGACAATGCTCTGCCTTATAAAACGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gaagaaaggagatgtttggcgtcttggccttctgctgctgtccttcagccaaggacagga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         966 GAAGAAAGGAGATGTTTGGCGTCTTGGCCTTCTGCTGCTGTCCCTCAGCCAAGGACAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1026 ATGTGGAGAGTACCCTGTGACCATCCCTAGTGACTTACCAGCTGACTTTCAAGATTTTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  aaagaaatgtgtgtgcttggatgacaaggaaagatggagtccccagcagttgttgaaaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1146 CAGCTTTATAAATCCCCAGCCAAAAATGCCTCTAGTGGAACAAAGTCCTGAAGATTCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1206 AGGACAAGATTATGTTGAGACTGTTATTCCTAGCAACCGGCTACCCAGTGCTGCTTCTT
                                             ctacaatgctttggaaacagccactggtggctttgtcttgttgtatgagtgggtccttca
                                                                                                                                                    546 CAAAAAGCAGATTCAAGGAACAGAAACAGAATTCAACTCACTGGTAAAATTGAGCCATCC
                                                                                                                                                                  1850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1910
                               890
                                                           366
                                                                                         950
                                                                                                                      426
                                                                                                                                                    1010
                                                                                                                                                                                                              1070
                                                                                                                                                                                                                                                                                                                                                                                                1250
                                                                                                                                                                                                                                                                                                                                                                                                                            726
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1610
                                                                                                                                                                                                                                                                                                                                    1190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ŏ
                                                                                                                                                                                g
                                                                                                                                                                                                                                         qq
                                                                                                                                                                                                                                                                                                      a
                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δy
                            ò
                                                          g
                                                                                         δ
                                                                                                                  g
                                                                                                                                                    ò
                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                         δý
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
```

agtgacactgotgtc agtgacactgotgtc cgaggacacagacg caaggatgacagacg caaggatgacagacg caaggatgacagaca caaggatgacagaca caccattactca caccattactca caccattactca caactctaacagaca caaatctcatcacagaca caaatctcatcacagaca caaatctcatcacagaca caaatctcatcacagaca caaatctcatcacagaca caaatctcatcacagaca caaatctcatcacagaca caaatctcatcacagaca caaatctcatcaccat caaatctcatcaccat caaatctcatcaccat caaatctcatcaccat caaatctcatcaccat caaatctcatcaccat caaatctcatcaccat caaatctcatcaccat caaatctcatcaccat caaatctcaccata caaatctcaccata caaatctcaccata caaatctcaccata caaatctcaccata caaatctcaccata caaatctcaccata caaatctcaccata caaatctcaccata caaatctcaccata caaatctcaccata caaatctcaccata caaatctcaccata caaatctcacccata caaatctcacccata caaatctcacccata caaatctcacccata caaatctcacccata caaatctcacccata caaatctcacccata caaatctcacccata caaatctcacccata caaatctcacccata caaatctcacccata caaatctcacccata caaatctcacccata	agugacactgotge adreacactgotge adreacactgotge cgaggacacgaget caaggatgaccgaget caaggatgaccgaget aggatgacgacgaget aggatgacgacgaget cgacgaggacgagagagagagagagagagagagagagag	gctgcaccatgagaacattgtgcgctactacaacgcctggat 2029 	ggcgggaccgggggacgccccggactccgggcccctggc 2089 	acycgggcagccggcgacacacagacggcctggacagcgt 2149 	accatcctcagcagctcggtggagtggagcacttcgggcga 2209 	tttccccgccaccggcccgggctccagcgatgacgaggacga 2269 	eggcgtetteteceagteetteetgeetgetteagattetga 2329 	saatgaagatgagaacagtaaaagtcagaatcaggatgaaga 2389 	tgccatgaaagtgagccatcagtgacgactgaggctgtgca 2449 	ggagtactgtgagaagagcactttacgagacaccattgacca 2509 	ogtcagactctggaggcttttcgagagattctggatggatt 2569 	ggaatgattcaccgggatttgaagcctgtcaacatttttt 2629 	yaaaataggtgattttggtttggcgacagaccatctagcctt 2689 	igacgatcagacaggagacttgattaagtcagaccttcagg 2749 	ggcactgctctctatgtaagcccagaggtccaaggaagcac 2809 	gaagtggatctcttcagcctgggaattatcttctttgagat 2869 	acggettcagaaaggatetttgttetcaaccaaetcagaga 2929 	ccagaagactttgacgatggagagcatgcaaagcagaaatc 2989 	aaccac
	99. 6 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	agtgacactgctgtcacggctgcacc 	cgagoggaacgagoggacgggagga 	caaggatgaccgagctgcacgcggg 	agaggeegeegeegeeaeceatee 	gegetiggecagtgecegttteece 	cgacgaggacgagcacggtggcgtct 	aagtgatattatctttgacaatgaag 	ttgcaatgaaaagaatggctgccatg 	ctacctatacatccagatggagtact 	999actgtatcgagacaccgtcagac 	agcttatatccatgagaaaggaatga 	ggattctgatgaccatgtgaaaatag 	ttotgetgacageaacaagaegate 	tcacttaactgggatggttggcactg 	caaatctgcatacaaccagaagtgg 	gtcctatcacccatgtcacggct. 	tcccacttcgcctaagtttccagaag 	agtcatctcctggctgttgaaccacg

	ratcatccgcatctttaa 328		SCTTTCTGCCCACTGCTGA 306 Cacttcaggaaagaatta 364 Cacttcaggaaagaatta 364 CACTTCAGGAAAGAAATTA 312 CACTTCAGGAAGAAATTA 312 CCTTACACTGTGGGATCCC 318	24 88 88 88 42 42	aggtcttgatcaatttggg 4
caagagtgagctgccccacccagatggagagtcac	tcaatccgtacagccaagatgcagcagcatgtgtgtaa tcaatccgtacagccaagatgcagcagcatgtgtgtaa IIIIIIIIIIIIIIIIIIIIIIIIIIIII		CTGGGTGTGTGTTTGATTGTCATTCTACCCAACAACACAACAACAACAACAACAACAAC		ggaggttgttggactgttgaagaaactcggcatcaagttaccentication
3050 2526 3110 2586 3170	23 23 29 76 82	3410 2886 3470 2946 3530	3006 3590 3066 3650 3126 3710		3950 3426 4010 3486 4070 3546 4130
oy oy		oy oy oy	0	0	0 y O O O O O O O O O O O O O O O O O O

			catggaggaatctgttacaataagctc 4249 	totatgtocagggocatoaacotaac 430; 	watcatgtacgactggtcacagtcca 4369 	<pre>vatcacctatgtggccttgtctcgga 4429                              vATCACCTATGTGGCCCTTGTCTCGGA 3905</pre>	9agaaggaaaggcagacagagaagcg 4489 	cagaaactgaggactaaagtcactga 454! 	gcagtgcaaatctgaagggtcatt 4609 	gcaacagtggttcccattgtgagtgt 4669 	ggegetatgaaacteaggtacaaac 472) 	aaaagcagtgaaattctggc 4789 	ttatcattagagtgggatgctgatga 4849 	tcacgcctgccaaagcaaagatacct 4909 	gtagaaaaaagtgtctgtgctatt 4969 	tattttaaccctaaagaactgtcgt 502) 	ataatggaatgttgtacattcatca 508 <sup>.</sup> 	Coaftgottoacactttaatcccag 5149 	accaggagtttgagaccagcctgag 5209                                  ACCAGGAGTTTGAGACCAGCCTCAG 4685	aaaattagttgggcatggtggcaca 5269 
	29 360 360 360 360 360 360 360 360 360 360		O agctatagacaagatatctgctgctgtctctcaa 	O ttgtgacctcctggttgtaagtgttggtcag 	ccagaaactctggacagcaggcatcacagca 	agaggaattacaagagtactgcagacatcatgaa 	taaagaaggaagccatgtcaaggttaagtcttc 	tgtgctggagactgaacttgtggaccatgtactg 	tgaaaggaatggcagagaagcttccgataatctt 	ttctaatgettcaggtttgtttgaaatee1gga 	gctagcccggagaagctgtcagccagcacta 	togacttcagacctcccttgccaacttacatcag 	tgtggatctacccaaagaacaatattacagttt 	acaggcatttaacacaactgtgaagcagctgctg 	caaattagtctgtgatgaaatttataacatcaaag 	ctgtacagctatagagatgactactacagaatct 	aacctcattcaaacagacagaggcttatactgga 	aatttaaaattaaattctaagaagaggctgggtg 	actttgggaagccaaggcaggaagactgcttga 	aacaaagcaagaccccatctctataaaaactaaa 

```
Clone from S. Wiemann, Molecular Genome Analysis, German Cancer Research Center (DKFZ); Email s.wiemann@dkfz-heidelberg.de; sequenced by Qiagen (Hilden/Germany) within the cDNA sequencing consortium of the German Genome Project.

This clone (DKFZp434Fil21) is available at the RZPD in Berlin. Please contact the RZPD: Ressourcenzentrum, Heubnerweg 6, 14059 Berlin-Charlottenburg, GERMANY; Email: clone@rzpd.de Further at Information about the clone and the sequencing project is available at http://www.m.ps.blochem.mpg.de/proj/CDNA/.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /traislation="SPGGERSASARFPATGPGSSDDEDDDEDEHGGVFSQSFLPASDS
SEDIIFDDHDEDNSKSQNQDEDCNEKNGCHESEPSVTTEAVHYLYIQMEYCEKSTLRDT
IDQGLYRDTVRLWRLFREILDGLAYIHEKGMHPRDLRFVNTELBSDDHYKIGDFGLAY
DHLAFSADSKQDDGTGDLIKSDPSGHLTGWYGTALIVYSFEVGGSTKSAYNGKVDLFSI
GIIFFEMSYHPWYTASERIFVLNQLRDPTSFKFPEDFDDGEHAKQKSVISWLLNHDPA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HSM802494 3351 bp mRNA PRI 18-FEB-2000 Homo sapiens mRNA; cDNA DKFZp434F1312 (from clone DKFZp434F1312); AL157497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                           5330 ggotgcagtgagctgtgactgcgccactgcactccagtctgggacaacagagcaagaccc 5389
                                                                                                                                                              4806 GGCTGCAGTGAGTGTGACTGCGCCACTGCAGTCTGGGACAACAGAGCAAAGACCC 4865
                                                                                                                                                                                                                           4686 CAACAAAGCAAGACCCCATCTCTATAAAACTAAAAAATTAGTTGGGCATGGTGGCACA 4745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /clone="DKFZp434F1312"
/clone_llb="434 (synonym: htes3). Vector pSportl; host
DBH10B; sistes NotI + SalI"
/dev_stage="adult"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Duesterhoeft, A., Lauber, J., Mewes, H.W., Weil, B. and Wiemann, S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note="similarity to eIF-2alpha kinase (Drosophila
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Submitted (15-FEB-2000) MIPS, Am Klopferspitz 18a, D-82152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /product="hypothetical protein"
/protein_id="CAB75678.1"
/db_xref="GI:7018545"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /tissue_type="testis"
1. .2819
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /gene="DKFZp434F1312"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /gene="DKFZp434F1312"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /db_xref="taxon:9606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /codon_start=3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  melanogaster)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AL157497.1 GI:7018544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (bases 1 to 3351)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GERMANY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                             5510 ctttcatat 5518
                                                                                                                                                                                                                                                                                                                                                                                                                                          4986 CTTTCATAT 4994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Martinsried,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HSM802494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMMENT
                                                                                                                                                                               qq
                                                                                                                                                                                                                                                                      Dp
                                                                                                                                                                                                                                                                                                                    ŏ
                                                                                                                                                                                                                                                                                                                                                                                                             οy
```

```
NOT ALL LANGUAGE STRIAR SCHOOLD VANDEL AND TAKENGRANGE SCHOOL TO THE TYPESDILKGNES IRTARMOQUYCET IIR IRRHGAVOLCTPLILPRING IYBHNEAAL TYPESDILKGNES IRTARMOQUYCET IIR IRRHGAVOLCTPLILPRING IYBHNEAAL FINDHSCHLWALFFOLRIFFRENDER FRYSTELLECAF DIVYSTUNSFLPAREIIYTYEI IQDEPALOBRNYSTYLHFWHYMLKALLILARILLECAF DIVYSTUNSFLPAREIIYTYEI IQDEPALOBRNYSTYLHFWHYMLKALLALTENGGOLDOLMPTINSL LKQWTGIAQUYWYGIAKDLEEVVGLIKKLGIKLQYLNINGENYYVQOHWGIIRQPAAFI KRRQRAVPEILANGKORGNESVALLINGKLGIKLGYLNINGSOOBELQBYRWYGNERSAINITYCKLWAGTTABINTOWSOOGELQBYNAMEESVY ISSCOLLVSVKOOMSKANINTOKLWAGTTABINTOWSOOGELQBYRHHEITTYV ALVSDKEGSHWKVKSFERROTERRYLETBELUDHYLOKLRFKYTDERRGREASDNLAV QNLKGSFSNASGLEIHGATVVPIVSVLAPEKLSASTRRYTETQVGTRLUCTSLANLHQ KSSEIFILAVDLPKETILQFLGSTRUPLETBLUDHYLOKLRSTTTQVGTRLUCTSLANLHQ IKVEKKVSVLFIXSTRDYRILF"

3309. 3314
                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
KRPTATELLKSELLPPPQMEESELHEVLHHTLTNVDGKAYRTMMAQIFSQRISPAIDY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                           ó,
                                                                                                                                                                                                                                                                                                                                                                                                  DB 93; Length 3351;
                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                           ó
                                                                                                                                                                                                                                                                                                                                                                                                                  100.0%; Pred. nc.
                                                                                                                                                                                                                                                                                                                                                                                    60.3%; Score 3332; I
                                                                                                                                                                                                                                                                                                                    764 9
                                                                                                                                                                                                                                                                                                                    734 C
                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 60.33
Best Local Similarity 100.
Matches 3332; Conservative
                                                                                                                                                                                                                                                                                                                    1017 a
                                                                                                                                                                                                                                                                    polyA_signal
polyA_site
BASE COUNT 1017
ORIGIN
```

```
g
                                  õ
9 d 9 d
                       검
                          ୍ଦ
              a
                1 6
                                                                                                             2913
                                                 2493
                                                               2673
                                                                     agattetggatggattagettatateceatgagaaaggaatgatteaeegggatttgaage 2613
```

2494

g δ

2374

2314

oγ

Dp ò g δ g οy

Dp

2554

g

2614

οy

g

2674

δ

ya 4	2974	atgcaaagcagaaatcagtcatctcctggctgttgaaccacgatccagcaaaacggccca 3033 
70 AG		
7 6 E	6 6	gcatgaagtgctgcaccacacgctgaccaacgtggatgggaaggcct 
3 & A	9 22	goccagatettergogageateteceetgecategattaeaectatgaeagegaea 321.
QY		ctgaagggcaacttctcaatccgtacagccaagatgcagcagcatgtgtgtg
ογ	3274	atccgcatctttaaaagacatggagctgttcagttgtgtactccac 
Z A	6 4	aaacagacaaatatagagcacaacgaagctgcctattcatggaccacagcgggatgc 339 
QY	6 0	tgatgottocttttgacctgcggatccctttgcaagatatgtggcaagaaataata 345. 
5 6 B		tattgaatttaaaogatactgcatagaac 
QY Db	51	ttcatcccaaagaacttctggagtgtgcatttgatattgtcacttctaccaccaacagct 357; 
Qy	2 2	ttctgcccactgctgaaattatctacactatctagaatcatccaagagtttccagcac 363; 
8 & E	. ω 4	traggaaagaattacagtatttatttgaaccataccatgttattgaaagcaatactct 369;
70 40	. 6 0	tacactgtgggatcccagaagataaactcagtcaagtctacattattctgtatgatgctg 3
Oy .	75	tgacagagaagctgacgagagagagagtggaagctaaattttgtaatctgtctttgtctt
Oy Oy		TGACAGAGAACTGACGACGAGAGAGAGAGAGAGAGAGAGA
Dρ	87	TAATAGTCTGTGTCGACTCTACAAGTTTATTGAACAGAAGGGAATIIOCAAGAACTITA 200 gccaacaataaattcattaataaaacagaaaacaggtattgcacagttggtgaagtatg 393 
qq	ω .	TGCCAACAATAAATTCATTAATAAAACAGAAAACAGGIAIIGCACAGIIGGGGGGGGGG
9y Dp	93	800
QY Db	3994	tcttgatcaatttgggcttggtttacaaggtgcagcagcacaatggaatcatc 

721

2734

qq ò g ð qq õ

2794

2854

4 ttgtggctttcatcaaacgaaggcaaaggctgtacctgaaatcctcgcagctggaggca 4113 	4 gatatgacctgctgattccccagtttagagggccacaagctctggggccagttcccactg 417. 	4 ccattggggtcagcatagctatagacaagatatctgctgctgtcctcaacatggaggaat 423: 	1ttggtcagatgtctatgtcca 429	999ccatcaacctaacccagaaactctggacagcatcacagcagcagaaatcatgtacg 435 	actggtcacagtcccaagaggaattacaagagtactgcagacatcatgaaatcacctatg 441	tggcccttgtctcggataaagaaggaagccatgtcaaggttaagtcttcggaaaggaaa 447	ggcagacagagaagcgtgtgctggagactgaacttgtggaccatgtactgcagaaactga 453; 	ggactaaagtcactgatgaaaggaatggcagagaagttccgataatcttgcagtgcaaa 459 	atctgaagggtcattttctaatgcttcaggtttgtttgaaatccatggagcaacagtgg 465 	tteccattgtgagtgtgctagcccggagaagctgtcagccagc	tacatcagaaaagcagtg 477. 	gaaacaatattacagtttttatcattag 483	tgctgtcacgcctgc 489	jtagaaaaaa 495                  stagaaaaa 276	501	tatactggaataatggaa 507 	gaagaggctgggtgcagtggctc 513. 	agcactttgggaagccaaggcaggaagactgcttgaaaccaggagt
4054	4114	4174	4234	4294	4354	4414	4474	4534	4594	4654	4714	4774	4834 2	4894 c	4954 a	5014 c	5074 t 2881 T	5134 a
Oy Dp	δλ	Q <sub>Y</sub>	Qy Db	Oy Dp	Qy Db	Qy	Qy Dp	Qy Dp	Qy	Oy Dp	Oy Dp	QQ QD	Q <u>y</u> Db	Oy Db	Qy Db	Qy Db	Qy Db	οy

```
Oligo capping; fis (full insert sequence).
HOMO sapiens hepatoma cell_line:HepG2 cDNA to mRNA, clone_lib:HEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Kawabata, A., Hikiji, T., Kobatake, N., Inagaki, H., Ikema, Y., Kamoto, S., Okitani, R., Ota, T., Suzuki, Y., Obayashi, M., Nishi, T., Shibahara, T., Tanaka, T., Nakamura, Y., Isogai, T. and Sugano, S. Unpublished (2000)

2 (bases 1 to 2986)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sugano, S., Suzuki, Y., Ota, T., Obayashi, M., Nishi, T., Isogai, T., Shibahara, T., Tanaka, T. and Nakamura, Y. Shibahara, T., Tanaka, T. and Nakamura, Y. Direct Submission

Submitsed (29-AdG-2000) to the DDBJ/EMBL/GenBank databases. Sumio Sugano, Institute of Medical Science, University of Tokyo, Laboratory of Genome Structure Analysis, Human Genome Center; Shirokane-dai, 4-6-1, Minato-ku, Tokyo 108-8639, Japan (E-mail:cdnal@ims.u-tokyo.ac.jp, Tel:81-3-5449-5286,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota, Metazoa; Chordata; Graniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                       1941 ACACCTTTAATCCCAGCACTTTGGGAAGCCAAGGCAGGAAGACTGCTTGAAACCAGGAGT 3000
                                                                                                                                                                                                                                                                                                                                                                               NEDO human cDNA sequencing project supported by Ministry of International Trade and Industry of Japan; cDNA full insert Sequencing: Research Association for Biotechnology; cDNA library construction, 5'- & 3'-end one pass sequencing: Departent of Virology and Human Genome Center, Institute of Medical Science, University of Tokyo (partly supported by Science and Technology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AK027011 2986 bp mRNA PRI
Homo sapiens cDNA: FLJ23358 fis, clone HEP14996.
AK027011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /cell_type="hepicoma"
/clone="HEP14996"
/clone=llb="HEP"
/clone=llb="HEP"
/note="cloning vector pME18SFL3"
40. 2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       13301 TGGGATATAATAAATGCTTTCATATACCTGCA 3332
                                                                                                                                                                                                                                                                                                                                                                                                                                                               5494 tgggatataaataaatgctttcatatacctgca 5525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /cell_line="HepG2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AK027011.1 GI:10440017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Fax:81-3-5449-5416)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 clone: HEP14996.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (sites)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Agency).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AK027011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMMENT
                                                                                                                                       ŏλ
                                                                                                                                                                              gg
                                                                                                                                                                                                                                                           q
                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                    ŏ
```

us-09-515-806-1.rge

```
qq
                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                              ŏ
                                                                                                                                                                                                                                                                                                   q
                                                                                                                                                                                                                                                                                                                                                  ŏ
                           δŏ
                                                               g
                                                                                                       δ
                                                                                                                                             셤
                                                                                                                                                                                   δ
                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                 QΣ
                                                               / LUADISTATION="WITHENEVRIFEDEDDHYKIGDFGLATDHLAFSADSKQDDQTG"
/ LTAINS LATION="WITHENEVRIFEDEDTHYKIGDFGLATDHLAFSADSKQDDQTG
/ LTKSDPSGHLTGWVGTALYVSPEVQGSTKSAYNOKYDLEGLGIFFEMSYHBWYTAS
BLIKSDPSGHLTGWVGTALYVSPEVQGSTKSAYNOKYDLEGLGIFFEMSYHBWYTAS
BRIFFYLDGLADSTEKFPEDEDDGBHAKOKYSISMLINHDPAKRFTATELLKSELLPP
POMBESELHEVLHFTLTVNOCKAYRFMANOFFSORISFRANDSTLEPP
KMOOHVCETIIRIFKRHGAVQLCTPLLLPRINGIYEHREALFWBHSGKLAVLEPBLEI
IPFARYARNNILININGKYCIERFYRFRKLDRFHPKELLECAPDIVTSTTNSTLFPBLEI
IPFARYARNNILINGKYSITENHYMLKAILLHCGIPEDKLSQYYILLYDAVTEKL
IYTYEIJOBFPALQBRYSTYLHHYMLKAILLHCGIPEDKLSQYYILLYDAVTEKL
TRREVEAKFCNLSLSSNSLCRLYKFTEOKGDLOLDLWFTINSILKOKYOTADAVTEKL
YDLLIPOFRGPQALGFVORTATGVYSIALDKISAAVLNNEESVTISSCDLLVVSVGOMSH
YDLLIPOFRGPQALGFVORTATGVSIALDKISAAVLNNEESVTISSCDLLVVSVGOMSH
STAILTQKLWFAGTTAEINVUNSCSQEELGGYCRHHEITTYVALVSKEGSTWVKKSF
EKROTEKRULETELVDHYLOKLRTKYTDERNGREASDDLAVONLKGSFSNAGSLEEI
HGATVVPIVSVLAPBELLSASSTRRREGYQTRLQTSLANLHOKSSEIBILAVDLPKET
ILQFLEIDDADDADSASTRRREGYQTRLGTSLANLHOKSSEIBILAVDLPKET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          atggcccagatcttctcgcagcgcatctccctgccatcgattacacctatgacagcgac 3212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3093 ctgcatgaagtgctgcaccacacgtgaccaacgtggatgggaaggcctaccgcaccatg 3152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2913 ctcaaccaactcagagatcccacttcgcctaagtttccagaagactttgacgatggagag 2972
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        catgoaaagcagaaatcagtcatctcctggctgttgaaccacgatccagcaaaacggccc 3032
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2793 gaggiccaaggaagcaccaaaictgcatacaaccagaaagiggaictcitcagcciggga 2852
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                attatottotttgagatgtoctatoacoccatggtcacggcttcagaaaggatctttgtt 2912
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTGCATGAAGTGCTGCACCACACGCTGACCAACGTGGAAGGGCTAACCGCACCATG 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2553 gagattctggattggattagcttatatccatgagaaaggaatgattcaccgggatttgaag 2612
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       361 CICAACCAACICAGAGAICCCACTICGCCIAAGITICCAGAAGACITIGACGAIGGAGAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   141 GAGGTCCAAGGAACCACCAAATCTGCATACAACCAGAAAGTGGATCTTTCAGCCTGGGA 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 GAGATICTGGATGGATTAGCTTATATCCATGAGAAAGGAATGATTCACCGGGATTTGAAG 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2673 acagaccatctagccttttctgctgacagcaaacaagacgatcagacaggagacttgatt
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity 99.9%; Score 2650; DB 89; Length 2986; Similarity 99.9%; Pred. No. 0; 50; Conservative 0; Mismatches 4; Indels 0;
'note="unnamed protein product"
                                                                                                                                                                                                                                                                                                                                                                             761 t
                                   /protein_id="BAB15625.1"
/db_xref="GI:10440018"
                                                                                                                                                                                                                                                                                                                                                                             663 g
                                                                                                                                                                                                                                                                                                                                                                               641 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches 2850; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2973
                                                                                                                                                                                                                                                                                                                                                                                   BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2853
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ŏ
```

g δ 셤 à q ö

g ŏ

ò g ò g õ

```
totgttacaataagotottgtgacotootggttgtaagtgttggtcagatgtotatgtoc 4292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4173 gccattggggtcagcatagctatagacaagatatctgctgctgtctccaacatggaggaa 4232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1621 GCCATTGGGGTCAGCATAGCTATAGACAAGATATCTGCTGCTGTCCTCAACATGGAGGAA 1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1681 ICTGTTACAATAAGCTCTTGTGACCTCCTGGTTGTAAGTGTTGGCCAGATGTCTATGTCC 1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1441 GTCTTGATCAATTTGGGCTTGGTTTACAAGGTGCAGCACCAATGGAATCATCTTCCAG 1500
                                                                                                                                                                                                                                                                                                                                                                                                         3753 gtgacagagaagctgacgaggagagaagtggaagctaaattttgtaatctgtctttgtct 3812
                                                                                                                                                                                                                                                                                                                                         3813 totaatagtctgtgtcgactctacaagtttattgaacagaagggagatttgcaagatctt 3872
                                                                                                                                                                         3573 tttctgcccactgctgaaattatctacactatctatgaaatcatccaagagtttccagca 3632
                                                                                                                                                                                                                                 1021 TITCIGCCCACTGCTGAAATTATCTACATCTATGAAATCATCCAAGAGTTTCCAGCA 1080
                                                                                                                                                                                                                                                     cttcaggaaagaaattacagtatttatttgaaccataccatgttattgaaagcaatactc 3692
                                                        901 ATATIGAAITITAAAACGATACIGCAIAGAACGIGIGIICAGGCCGCGCAAGITAGAICGA 960
3993 gtottgatcaatttgggcttggtttacaaggtgcagcagcacaatggaatcatctccag
                                                                                                3393 ctgtgatgcttccttttgacctgcggatcccttttgcaagatatgtggcaagaaataat
                                                                                                                                      atattgaatttaaaagatactgcatagaacgtgtgttcaggccgcaagttagatcga
                                                                                                                  841 CrGGrGArGCTTCCTTTTGACCTGCGGATCCCTTTTGCAAGATATGTGGCGAAGAATAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4233
                                                                                                                                                                                                                                                                                                                                                                                                                                                       3933
                                                                                                                                            3453
                                                                                                                                                                                                                                                             3633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q\underline{\gamma}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                       ŏ
                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                       QY
                                                                                                                                                                                                                                                                                                                                                       Q
                                                                                                                                                                                                                                                                                                                                                                             Ω
                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                          qq
                                                                                                                                                                                                                                                             δy
                                                                                                                                                                                                                                                                             QQ
                                                                                                                                                                                                                                                                                                  δ
```

```
4353 gactggtcacagtcccaagaggaattacaagagtactgcagacatcatgaaatcacctat 4412
                                                                                                           gtggcccttgtctcggataaagaaggaagccatgtcaaggttaagtctttcgagaaggaa 4472
                                                                                                                                 aggcagacagagaagcgtgtgctggagactgaacttgtggaccatgtactgcagaaactg 4532
                                                                                                                                                                                                                                                           1921 AGGCAGACAGAGAGCGTGTGCTGGAGCTGAACTTGTGGACCATGTACTGCAGAAACTG 1980
                                                                                                                                                                                                                                                                                                                                                1981 AGGACTAAAGTCACTGATGAAAGGAATGGCAGAGAAGCTTCCGATAATCTTGCAGTGCAA 2040
                                                                                                                                                                                                                                                                                                                                                                                                                        aggactaaagtcactgatgaaaggaatggcagagagcttccgataatcttgcagtgcaa 4592
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2161 GAAACTCAGGTACAAACTCGACTTCAGACCTCCCTTGCCAACTTACATCAGAAAAGCAGT 2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gaaactcaggtacaaactcgacttcagacctcccttgccaacttacatcagaaaagcagt 4772
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gagigggatgctgatgaacaggcatttaacacaactgigaagcagctgctgtcacgcctg 4892
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     tttgagaccagcctgagcaacaaagcaagaccccatctctataaaaaactaaaaaattag 5252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  aaggtgtctgtgctatttctgtacagctatagagatgactactacagaatcttattttaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     coctaaagaactgtogttaacotcattcaaacagacagaggottatactggaataatgga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITGAGACCAGCCTGAGCAACAAAGCAAGACCCCATCTTATAAAAAACTAAAAATTAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ttgggcatggtggcacatgcctgtagtcccagctactccagaggctgagatggatcatct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gagcotcaggaggttgaggctgcagtgagctgtgactgccactgcactccagtctggg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5373 acaacagagcaagaccctgtcttaaaaaaaaaa 5406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 1911 | 19
                                                                                                      4413
                                                                                                                                                                                                              4473
                                                                                                                                                                                                                                                                                                                  4533
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4653
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4713
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4893
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4953
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4833
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5013
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5073
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2281
                                              Q
δ
                                                                                                      ò
                                                                                                                                                  qq
                                                                                                                                                                                                         ŏ
                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                              q
                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
```

```
EOKGDLODIAMPTINGLIKQKTGTAQLWKYDEALKRUEVBARGCNELSENSICRLYRFT
EOKGDLODIAMPTINGLIKQKTGTAQLWKGLKDLEEVVGLLKKLGIKLQVLINLGLVY
KVQQHGIIFQFVAFIKRRQRAVPEILAAGGRYDLLIPQFRGPQALGPVPTALGVSIN
INTSAAYUMBESVTISSCDLLVVSVGQMSMSRAINLTQKLWTAGTTAETMYDWSGS
QEELQEYCRHHEITYVALVSDKEGSHVKVKSFERERQTERRVLETELVDHVLQKLRTK
VTDERNGRRASDHAVQNAKGSFENASGLFEHIGATVVPIVSVLAPBKLSAGTRRRYE
LPQOTRLKLVGTSLANLHQKSSEIETLAVDLPKETILQFLSLEWDADEQAFNTTVKQLLSR
CA139. .2144
/gene="GCN2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /translation="AlembhscmlyMlpFdlrIPFARYVARNNILILKRYCIERVFRP
RKLDRFHPKELLECAFDIVTSTTNSFLPTAEIIYTIYEIIQEPPALQERNYSIYLNHT
MLLKAILLHCGIPEDKLSQYYIILYDAVTEKLTRREVEAKFCNLSLSSNSLCRLYKFI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 2162)
Berlanga, J.J., Santoyo, J. and De Haro, C.
Characterization of a mammalian homolog of the GCN2 eukaryotic linitation factor 2alpha kinase
Eur. J. Biochem. 265 (2), 754-762 (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                  Submitted (28-JUN-1999) Santoyo J., Molecular Biology, Centro de Biologia Molecular 'Severo Ochoa', Fac. Ciencias. U.A.M., Cantoblanco, Madrid, 28049, SPAIN
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3364 etgecetatteatggaceacagegggatgetggtgatgetteettttgacetgeggatee 3423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3424 cttttgcaagatatgtggcaagaaataatattgaatttaaaacgatactgcatagaac 3483
                      HSA243428 2162 bp mRNA PRI 15-OCT-1999
Homo sapiens partial mRNA for putative eIF2 alpha kinase (GCN2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3484 gtgtgttcaggccgcgcaagttagatcgatttcatcccaaagaacttctggagtgtgcat 3543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121 GTGTTCAGGCCGCGCAAGTTAGATCGATTTCATCCCAAAGAACTTCTGGAGTGTGCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 38.2%; Score 2111; DB 93; Length 2162; Best Local Similarity 100.0%; Pred. No. 0; Marches 2161; Conservative 0; Mismatches 1; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /product="putative eIF2 alpha kinase"
/protein_id="CAB58360.1"
/db_xref="G1:6065914"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /function="protein synthesis control"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1. .2162
/organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                    eIF2 alpha kinase; GCN2 gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /codon_start=3
                                                                                                        AJ243428.1 GI:6065913
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /gene="GCN2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /gene="GCN2"
                                                                                                                                                                                                                                                                                                                                                                     2 (bases 1 to 2162)
Santoyo,J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  434 C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      <1. .1649
                                                                                                                                                                                                                                                                                                                                                                                                                  Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1. .2144
                                                                                                                                                                          Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  672 a
                                                                                                                                                        human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         polyA_signal
                                           DEFINITION
                                                                                                                                                                        ORGANISM
HSA243428
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                         AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gene
                                                                                      ACCESSION
                                                                                                                                                                                                                                        REFERENCE
                                                                                                                                                                                                                                                              AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                       JOURNAL
                                                                                                        VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                            JOURNAL
                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CDS
                                                                                                                                                                                                                                                                                   TITLE
                                                                                                                                                   SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  q
```

12

3663 300 3723	09	3783 420	3843 480	3903 540	3963 600	4023 660	4083 720	4143	4203 840	4263 900	4323 <sub>.</sub> 960	<b>4</b> 383 1020	4443	4503 1140	4563 1200	4623 1260	4683
tctatgaaatcatccaagagtttccagcacttcaggaaagaattacagtatttatt	A ACCATACCATO CARCOS CARCOS CARCOS CONTROLLOS CONTROLS CARCOS CAR	<pre>4 gtcaagtctacattattctgtatgatgctgtgacagagaagctgacgaggagagaagtgg                          </pre>	4 aagctaaattttgtaatctgtctttgtcttctaatagtctgtgtggactctacaagttta 	ttgaacagaagggagatttgcaagatcttatgccaacaataaattcattaataaacaga 	4 aaacaggtattgcacagttggtgaagtatggcttaaaagacctagaggaggttgttggac 	4 tgttgaagaaactcggcatcaagttacagtcttgatcaatttgggcttggtttacaag 	4 tgcagcagcacaatggaatcatcttccagtttgtggctttcatcaaacgaaggcaaaggg 	d ctgtacctgaaatcctcgcagctggaggcagatatgacctgctgattccccagtttagag	4 ggccacaagctctggggccagttcccactgccattggggtcagcatagctatagacaaga 	4 tatctgctgctgtctcaacatggaggaatctgttacaataagctcttgtgacctcctgg 	4 ttgtaagtgttggtcagatgtctatgtccagggccatcaacctaacccagaaacttgga 	4 cagcaggcatcacagcagaaatcatgtacgactggtcacagtcccaagaggaattacaag 	4 agtactgcagacatcatgaaatcacctatgtggcccttgtctcggataaagaaggaag	4 atgtcaaggttaagtctttcgagaaggaaaggcagacaga	4 aacttgtggaccatgtactgcagaaactgaggactaaagtcactgatgaaaggaatggca 	4 gagaagcttccgataatcttgcagtgcaaaatctgaaggggtcattttctaatgcttcag 	4 gtttgtttgaaatccatggagcaacagtggttcccattgtgagtgtgctagcccggaga 
3604	30	3724	3784	3844	3904	3967	402,	408	414	420	426	432	438	108	450	456	126
& 8 &	g q	QY	Qy Dp	Qy Dp	Qy Db	Qy Db	Oy Op	Qy Dp	oy og	ζζ Pg	Oy Dp	QQ Dp	Qy	٥ م	9. 0.7	Qy Dp	O.y Db

```
Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostoml;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                             HSM802391 1138 bp mRNA PRI 18-FEB-2000
Homo sapiens mRNA; cDNA DKFZp434P0612 (from clone DKFZp434P0612);
partial cds.
                                                                                                                                                                                                                                                                  5403
                                                                                                                                                                                                                                                  5043
                                                                                                                                 5103
                                                                                                                                                       gagatgactactacagaatcttattttaaccctaaagaactgtcgttaacctcattcaaa
                                                                                                                 cagacagaggottatactggaataatggaatgttgtacattcatcataatttaaaattaa
cccttgccaacttacatcagaaaagcagtgaaattgaaattctggctgtggatctaccca
                                                                                                                                                                                                                                                                                                                                                                    AL137627
AL137627.1 GI:6808424
                                                                                                                                                                                                                                                                                                                                                                                    human.
                                                                                                                                                                                                                                                                                                                5525
                                                                                                                                                                                                                                                                                                                          2162
                                                                                                                                                                                                                                                                                                                ca
                                                                                                                                                                                                                                                                                                                          CA
                                                                                                                                                                                                                                                                                                                                                     LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM
                                                                                                                                                                                                                                                         1981
                                                                                                                                                                                                                                                                                          5464
                                                                                                                                                                                                                                                                                                     2101
                                                                                                                                                                                                                                               5344
                                                                                                                                                                                                                                                                                                                5524
                                                                                                                                                                                                                                                                                                                          2161
                                                       1441
                                                                                                   1561
                                                                                                                                                                              5164
                                                                                                                                                                                         1801
                                                                                                                                                                                                                                                                                                                                              HSM802391
                                                                                                                                                                                                                                                                                                                                                                     ACCESSION
            1321
                                  1381
                                             4804
                                                                   4864
                                                                             1501
                                                                                        4924
                                                                                                              4984
                        4744
                                                                                                                                                                                                                                                                                                                                                                               KEYWORDS
SOURCE
   4684
                                                                                                                                                                                                                                                                                                                                                                           VERSION
                                                                                                                                                                                                                                                                                                                                          RESULT
                                                                                                                                                                                                                                                                              Dp
                                                                                                                                                                                                                                                                                                                Ω
                                                                                                                                                                                                                                                                                                                         Db
                                                                                                                                                                                                                                  qq
                                                                                                                                                                                                                                                         qq
                                                                                                                                                                                                                                                                                          Qγ
                                                      qq
                                                                           Op
                                                                                     QY
                                                                                                 qq
                                                                                                              δ
                                                                                                                      q
                                                                                                                                  οy
                                                                                                                                             qq
                                                                                                                                                        οy
                                                                                                                                                                  qq
                                                                                                                                                                              óλ
                                                                                                                                                                                        g
                                                                                                                                                                                                  Qγ
                                                                                                                                                                                                             qq
                                                                                                                                                                                                                         QΣ
                                                                                                                                                                                                                                               Óγ
                                                                                                                                                                                                                                                                    δŽ
                                  qq
                                                                 Qγ
                       δ
                                             Óγ
```

```
Martinstied, GERMANY
Glone from S. Wiemann, Molecular Genome Analysis, German Cancer
Research Center (DKFZ); Email s.wiemann@dkfz.heldelberg.de;
sequenced by Olagen (Hilden/Germany) within the CDNA sequencing
consortium of the German Genome Project.
This clone (DKFZ0434P0612) is available at the RZDD in Berlin.
Please contact the RZDD. Ressourcenzentrum, Heubnerweg 6, 14059
Berlin-Charlottenburg, GERMANY: Email: clone@rzpd.de Further
information about the clone and the sequencing project is available
at http://www.mips.blochem.mpg.de/proj/CDNA/.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ASDNIAVQNIKGSFSNASGIFEIHGATVVPYPYSVLAPEKLSASTRRYETQVQTRLQT
SLANLHQKSSEIEILAVDLPKETILQFLEMDADEQAFNTTVKQLLSRLPKQRYLKL
VCDEIYNIKVEKKVSVLFLYSYRDDYYRILF"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /translation="GSHVKVKSFEKERQTEKRVLETELVDHVLQKLRTKVTDERNGRE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                           'note="similarity to C-terminus of Drosophila eIF-2alpha
                                                                                                                                                                                                                                                                                                                /clone_lib="434 (synonym: htes3). Vector pSport1; host
DH10B; sites Not1 + Sal1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              cagacctcccttgccaacttacatcagaaaagcagtgaaattgaaattctggctgtggat 4796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4797 ctacccaaagaaacaatattacagtttttatcattagagtgggatgctgatgaacaggca 4856
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4676
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Duesterhoeft, A., Lauber, J., Mewes, H.W., Gassenhuber, J. and
                                                           Submitted (15-JAN-2000) MIPS, Am Klopferspitz 18a, D-82152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ccggagaagctgtcagccagcactaggaggcgctatgaaactcaggtacaaactcgactt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 93; Length 1138;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /product="hypothetical protein"
/protein_id="CAB70849.1"
/db_xref="G1:6808425"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pred. No. 0;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 1032;
                                                                                                                                                                                                                                                                   /organism="Homo sapiens"
                                                                                                                                                                                                                                                                                /db_xref="taxon:9606"
/clone="DKFZp434P0612"
                                                                                                                                                                                                                                                                                                                                                                /tissue_type="testis"
                                                                                                                                                                                                                                                                                                                                                                                               /gene="DKFZp434P0612"
                                                                                                                                                                                                                                                                                                                                                                                                                               /gene-"DKF2p434P0612"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     242 g
                                                                                                                                                                                                                                                                                                                                                 /dev_stage="adult"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  18.78;
99.98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1066. .1071
1078
 (bases 1 to 1138)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   207 c
                                              Direct Submission
                                                                                                                                                                                                                                                    .1138
                                                                                                                                                                                                                                                                                                                                                                                                             .576
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches 1082; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                             kinase"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
                               Wiemann,S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     410 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    polyA_signal
polyA_site
COUNT 410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
REFERENCE
              AUTHORS
                                                             JOURNAL
                                                                                                                                                                                                                                                                                                                                                                               gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4557
                                                                                                                                                                                                                                                                                                                                                                                                             CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4737
                                                                                                                                                                                                                                  FEATURES
                                            TITLE
                                                                                         COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
```

```
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 1917)
Poustka,A., Klein,M., Mewes,H.W., Gassenhuber,J. and Wiemann,S. Direct Submission
Submitted (15-JAM-2000) MIPS, Am Klopferspitz 18a, D-82152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Martinsried, GERMANY
Clone from S. Wiemann, Molecular Genome Analysis, German Cancer
Research Center (DKF2); Email s.wiemann@dkfz-heidelberg.de;
sequenced by DKF2 (German Cancer Research Center,
Heidelberg/Germany) within the cDNA sequencing consortium of the
                                           5036
                                                                                                                                                                                                                                                                                       5156
                                                                                                                                                                                                                                                                                                                                                   5216
                                                                                                        gtctgtgatgaaatttataacatcaaagtagaaaaaaggtgtctgtgctatttctgtac 4976
                                                                                                                                                                                                                       5037 attcaaacagacagaggettatactggaataatggaatgttgtacattcatcataattta 5096
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5516
                                                                                                                                                                                                 900
                                                                                                                                                                                                                                                           099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             540
                                                                                                                                                                                                                                                                                                                    720
                                                                                                                                                                                                                                                                                                                                                                               780
                  361 CTACCCAAAGAAACAATATTACAGTTTTTATCATTAGAGTGGGATGCTGATGAACAGGCA 420
                                                                                                                                                                                                                                                                                                                                                                                                                        DKFZp434H149 (from clone DKFZp434H149).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  18-FEB-2000
                                                                                                                     4977 agctatagagatgactactacagaatcttattttaaccctaaagaactgtcgttaactc
                                                                                                                                                                             5097 aaattaaattctaagaagaggctgggtgcagtggctcacacctttaatcccagcactttg
                                                                                                                                                                                                                                                                                                                                                               5217 gcaagaccccatctctataaaaactaaaaaattagttgggcatggtggcacatgcctgt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                5277 agtoccagotactocagaggotgagatggatcatotgagcotocaggaggttgaggotgca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5457 tagtttttcatgtgtaatattataaaatttatcttttgggatataataatgctttcat
                                                                                                                                                                                                                                                                                                                                             5157 ggaagccaaggcaggaagactgcttgaaaccaggagtttgagaccagcctgagcaacaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gtgagctgtgactgcgccactgcactccagtctgggacaacagagcaagacctgtctta
961 AAAAAAAAAAAAAAAAATTTTTTTTTAAGAAGCTGTCCTACAAGTTGAGCTTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HSM802022 1917 bp
Homo sapiens mRNA; CDNA
AL137676
AL137676.1 GI:6807846
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5517 ata 5519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1081 ATA 1083
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        numan.
                                                                                                       4917
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HSM802022
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LOCUS
                                                                                                       ò
                                                                                                                                 g
                                                                                                                                                               ŏ
                                                                                                                                                                                           g
                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                             q
                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                   pp
                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                        òχ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    òγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ŏ
```

German Genome Project.

Page 14

```
This clone (DKFZp434H149) is available at the RZPD in Berlin. Dease contact the RZPD: Ressourcenzentrum, Heubnerweg 6, 14059 Berlin-Charlottenburg, GERMANY; Email: clone@rzpd.de Further information about the clone and the sequencing project is available at http://www.mips.biochem.mpg.de/proj/cDNA/.
                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4151 agctctggggccagttcccactgccattggggtcagcatagctatagacaagatatctgc 4210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3851 gaaggagatttgcaagatcttatgccaacaataaattcattaataaaacagaaaacagg 3910
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             tattgcacagttggtgaagtatggcttaaaagacctagaggaggttgttggactgttgaa 3970
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3971 gaaactcggcatcaagttacaggtcttgatcaatttgggcttggtttacaaggtgcagca 4030
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            tgaaatcctcgcagctggaggcagatatgacctgctgattccccagtttagagggccaca 4150
                                                                                                                                                      /db_xref="taxon:9606"
/clone="nKFzp434H49"
/clone=lib="434 (synonym: htes3). Vector pSportl; host
DBH10B; sites NotI + SalI"
/dev_stage="adult"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4031 gcacaatggaatcatcttccagtttgtggctttcatcaaacgaaggcaaagggctgtacc 4090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3671 catgitaligaaagcaatacicttacacigigggaicccagaagaiaaacicagicaagi 3730
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3431 aagatatgtggcaagaaataatattgaatttaaaacgatactgcatagaacgtgtgtt 3490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          481 TATTGCACAGTTGGTGAAGTATGGCTTAAAAGACCTAGAGGAGGTTGTTGGACTGTTGAA 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            661 TGAAATCCTCGCAGCTGGAGGCAGATATGACCTGCTGATTCCCCCAGTTTAGAGGGCCACA 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            421 GAAGGGAGATTTGCAAGATCTTATGCCAACAATAAATTCATTAATAAAACAGAAAACAGG 480
                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 AAGATATGTGGCAAGAAATAATATATATGAATTTAAAACGATACTGCATAGAACGTGTGTT 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ;
0
                                                                                                                                                                                                                                                                                                                                                                                           DB 93; Length 1917;
                                                                                                                                                                                                                                                                                                                                                                                                                               2; Indels
                                                                                                                                                                                                                                                                                                                513 t
                                                                                                                                                                                                                                                                                                                                                                                                                                 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                           16.6%; Score 919; D 99.8%; Pred. No. 0;
                                                                                                                                       /organism="Homo sapiens"
                                                                                                                                                                                                                                                   /tissue_type="testis"
1891. .1896
                                                                                                   Location/Qualifiers
                                                                                                                                                                                                                                                                                                                416 g
                                                                                                                                                                                                                                                                                                                376 c
                                                                                                                                                                                                                                                                                                                                                                                                                               Matches 1019; Conservative
                                                                                                                   .1917
                                                                                                                                                                                                                                                                                                                                                                                                                 Best Local Similarity
                                                                                                                                                                                                                                                                             polyA_signal
                                                                                                                                                                                                                                                                                                  polyA_site
BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                         source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3911
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4091
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3731
                                                                                                     FEATURES
```

g

g ò g ŏ g ò g

g ŏ g ò

g δ

ð

g

õ

pp ó qq ŏ

ò

```
Linton, B. Linton, L. Nusbaum, C., Lander, E., Allen, N., Anderson, M., Balran, B., Linton, L., Nusbaum, C., Lander, E., Allen, N., Anderson, M., Balran, N., Beckerly, R., Boguslavkiy, L., Boukhgalter, B., Brown, A., Castle, A., Collangelo, M., Collins, S., Collymore, A., Cooke, P., Dearellano, K., Dewar, K., Domino, M., Donelan, L., Doyle, M., Ferreira, P., FitzHugh, M., Forrest, C., Funke, R., Gage, D., Galagan, J., Gardyna, S., Grant, G., Hagos, B., Headrord, A., Horton, L., Howland, J. C., Johnson, R., Jones, C., Kann, L., Karatas, A., Klein, J., Lieu, C., Johnson, R., Macdonald, P., Marquis, N., Lieu, C., Locke, K., Macdonald, P., Marquis, N., McKernan, K., McAdonald, P., Marquis, N., Pollaraw, J., Norman, C. H., O'Connor, T., O'Donnell, P., Peterson, K., Pollaraw, V., Riley, R., Roy, A., Santos, R., Severy, P., Stanger, Thomann, N., Stojanovic, N., Subramanian, A., Talamas, J., Tesfaye, S., Tirrell, A., Vasailiev, H., Vo, A., Wheeler, J., Wu, X., Wyman, D., Ye, W.J., Zimmer, A. and Zody, M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AC012138 164297 bp DNA HTG 07-JUL-2000
Homo sapiens clone RP11-10K15, WORKING DRAFT SEQUENCE, 34 unordered
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             submitted (20-CCT-1999) Whitehead Institute/MIT Center for Genome Research, 320 Charles Street, Cambridge, MA 02141, USA on Jul 7, 2000 this sequence version replaced 91:7230052.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 164297)
Birren.B., Linton,L., Nusbaum,C. and Lander,E.
Homo sapiens, clone RP11-10K15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Center: Whitehead Institute/ MIT Center for Genome Research
                                                                                                                                                                                                                                                                                                                                                                 4331 catcacagcagaaatcatgtacgactggtcacagtcccaagaggaattacaagagtactg 4390
                                                                     4211 tgctgtcctcaacatggaggaatctgttacaataagctcttgtgacctcctggttgtaag 4270
                                                                                                                                                                      4271 tgttggtcagatgtctatgtccagggccatcaacctaacccagaaactctģgacagcagg 4330
                                                                                                                                                                                                  Smit, A.F.A. & Green, P. (1996-1997)
http://ftp.genome.washington.edu/RM/RepeatMasker.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Web site: http://www-seq.wi.mit.edu
Contact: sequence_submissions@genome.wi.mit.edu
------ Project Information
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        All repeats were identified using RepeatMasker:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HTG; HTGS_PHASE1; HTGS_DRAFT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Center project name:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AC012138
AC012138.4 GI:8954133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (bases 1 to 164297)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Center code: WIBR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 pieces
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4451 g 4451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1021 G 1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 8
AC012138/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δy
                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                            qq
                                                                                 δý
                                                                                                                               Pp
                                                                                                                                                                                   δ
                                                                                                                                                                                                                              q
                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                               g
```

```
source
                                                                                                                                                                                                                                                   FEATURES
1.91489361702128Chemistry: Dye-terminator Big Dye; 100% of
                                                                                                                                                                                    NOTE: This is a 'working draft' sequence. It currently consists of 34 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will be preserved.
                                    Assembly program: Phrap, version 0.960731
Consensus quality: 142640 bases at least Q40
Consensus quality: 152432 bases at least Q30
consensus quality: 157096 bases at least Q20
Insert size: 153000; agarose-fp
Insert size: 160997; sum-of-contigs
Quality coverage: 3.4 in Q20 bases; agarose-fp
                                                                                                                                                                                                                                                                                                                                                                 1065 1164; gap of 100 bp 1165 2366; contig of 1202 bp in length 1207 2467 3540; contig of 1074 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                   sap of 100 bp 4861: contig of 1221 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      of 100 bp contig of 1007 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             of 100 bp contig of 1174 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  of 100 bp contig of 1111 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8553: gap of 100 bp 920: contig of 1267 bp in length 10938: contig of 1018 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     14248: contig of 1892 bp in length 188: gap of 100 bp 15680: contig of 1332 bp in length 15680: contig of 1332 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                12256: contig of 1218 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   20912: gap of 100 bp 24906: contig of 3994 bp in length 25006: gap of 100 bp 28926: contig of 3920 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    34160 34259; gap of 100 bp 34260 37975; contig of 3716 bp in length 37976 38075; gap of 100 bp 100 bp 38076 443955; contig of 5880 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        to of 100 bp contig of 1353 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     p of 100 bp contig of 1460 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              93: gap of 100 bp
20812: contig of 2019 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             29026: gap of 100 bp 34159: contig of 5133 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    p of 100 bp contig of 3984 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      p of 100 bp contig of 5628 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           p of 100 bp contig of 5945 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              59912: gap of 100 bp 63066: contig of 3154 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     63166: gap of 100 bp
70627: contig of 7461 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                contig of 6974 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   p of 100 bp contig of 7752 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         53: gap of 100 bp 94602: contig of 8949 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       12356: gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 20912: gap of
24906: cont
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        17340: gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              34160 34259; gap of
34260 37975; cont
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3956 44055; gap of 4056 48039; cont
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8040 48139: gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            70727: gap of
77701: cont
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 77801: gap of
85553: cont
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4961: gap of
5968: cor
                                                                                                                                                                                                                                                                                                                                                                                                                                                   3541 3640: gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5969 6068: gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 7242:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8453:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         17240:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         53767:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                59812:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            18693
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    11038:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    7342:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     15780:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         85653:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              14249 14348;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             53867:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              18793
```

```
135528 13527: gap of 100 bp 135528 147434: contig of 11907 bp in length 147435 147534: gap of 100 bp 147535 164297: contig of 16763 bp in length. Location/Qualifiers
94603 94702: gap of 100 bp 94702 104093: contig of 9391 bp in length 104194 112395: contig of 8202 bp in length 112396 112495: contig of 8020 bp in length 12396 112495: gap of 100 bp 123245 123344; contig of 10749 bp in length 123245 123344; gap of 100 bp 123345 1335427; contig of 12083 bp in length
                                                                                                                                                                                                                                                                                                 /clone_lib="RPCI-11 Human Male BAC"
1. .1064
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   11039. .12256
/note="assembly_fragment"
12357. .14248
/note="assembly_fragment"
14349. .15680
/note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         //056. .48039
/note="assembly_fragment"
/8140. .53767
/note="assembly_fragment"
53868. .59812
/note="assembly_fragment"
59913. .63066
/note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                       3641. 4861
/note="assembly_fragment"
4962. 5968
/note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                        'note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                      1165. .2366
/note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                        2467. .3540
/note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5069. .7242
/note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3554. .9820
/note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9921. .10938
/note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            17341. .18693
/note="assembly_fragment"
18794. .20812
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /343..8453
/note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         15781. 17240
'note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20913. 24906 // Anote="assembly_fragment" 25007. 28926 // Anote="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            'note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                63167. .70627
/note="assembly_fragment"
70728. .77701
                                                                                                                                                                                                                                               /organism="Homo sapiens"
/db_xref="taxon:9606"
/clone="RP11-10K15"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    vector_side:left"
38076. 43955
/note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note="assembly_fragment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        vector_side:left"
63167. .70627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           34260. .37975
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          clone_end:SP6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              clone_end:T7
                                                                                                                                                                                                                                1. .164297
                                                                                                                                                                                                                                                                                                                     misc_feature
                                                                                                                                                                                                                                                                                                                                                                                        misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                         misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         misc_feature
```

misc\_feature

```
Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURES
                              COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalla; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Rowen, L., Madan, A., Qin, S., Abbasi, N., Baradarani, L., Birditt, B., Bloom, S., Dors, M., Dickhoff, R., Fleetwood, P., Harrison, G., James, R., Kaur, A., Madan, A., Owen, M.P., Ratcliffe, A., Shaffer, T.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Rowen,L., Madan,A., Qin,S., Baradarani,L., Birditt,B., Bloom,S.,
Burke,J., Dors,M., Fleetwood,P., Kaur,A., Madan,A., Nesbitt,R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1497 ggagatgittggegtettggeettetgetgetgeteteeteagecaaggacaggaatgtgga 1556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1257 gigcaicagcitcgcaggiacacagcicagciccigicaggccitgatiaicigcacagc 1316
                                                                                                                                                                                                                                                                                                                                                                                                                                                    1317 aattotgtggtgcataaggtcotgagtgcatotaatgtottggtggatgcagaaggcacc 1376
                                                                                                                                                                                                                                                         1137 gtacgctaccttgcaatgaatctcaaagagcaagacgactccatcgtggtggacattta 1196
                                                                                                                                                                                            1077 cagattcaaggaacagaaacagaattcaactcactggtaaaattgagccatccaaatgta 1136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AC025168 173364 bp DNA HTG 13-APR-2001
Homo saptens chromosome 15 clone RP11-43D14 map 15q14, ***
                                                                                                                                                              0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pate, D. and Hood, L. Sequencing of human chromosome 15 D15S146-D15S117 region
                                                                                                                              Length 164297;
                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCING IN PROGRESS ***, 1 ordered pieces.
                                                                                                                                                 Pred. No. 2.2e-292;
                                                                                                                                                                   ó
                                                                                                                                 9.8%; Score 539; DB 62;
     77802. .8553
/note="assembly_fragment"
85654. .94602
/note="assembly_fragment"
94703. .104093
                                                                                                                              Query Match
Best Local Similarity 100.08; Pred. No. 2.26
 /note="assembly_fragment"
77802. .85553
                                                                                  94703. .104093
/note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HTG; HTGS_PHASE2; HTGS_FULLTOP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AC025168.6 GI:13621223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (bases 1 to 173364)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (bases 1 to 173364)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       and Hood, L.
                         misc_feature
                                                       misc_feature
                                                                                       misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AC025168/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOURCE
```

g

g ò

g

g

δ

δ g õ Db ò Ω ŏ

οý

```
Submitted (07-MAR-2000) Multimegabase Sequencing Center, University of Washington, PO BOX 357730, Seattle, WA 98195, USA on Apr 13, 2001 this sequence version replaced gi:10305066.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /clone_llb="RPCI human BAC library 11"
/clone_nThis clone overlaps RPI1-325N19 and RPI1-521C20"
51234 a 35556 c 35570 g 51004 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DD 72963 CAGATTCAAGGAACAGAAACAGAATTCAACTCACTGGTAAAATTGAGCCATCCAAATGTA 72904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1077 cagattcaaggaacagaaacagaattcaactcactggtaaaattgagccatccaaatgta 1136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Base-by-base quality values are not generally visible from the GenBank flat file format but are available as part of this entry's ASN.1 file.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                       This entry has been annotated with sequence quality estimates computed by the Phrap assembly program. All manually edited bases have been reduced to quality zero. Quality levels above 40 are expected to have less than 1 error in 10,000 bp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   * NOTE: This is a 'working draft' sequence. It currently consists of 1 contigs. Gaps between the contigs are represented as runs of N. The order of the pieces is believed to be correct as given, however the sizes of the gaps between them are based on estimates that have * provided by the submitter.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             This sequence will be replaced by the finished sequence as soon as it is available and the accession number will be preserved.

1 173364: contig of 173364 bp in length.
                                                                                                                                                                                                                                      Sequencing vector: pUC18, L08752 Chemistry: Dye-terminator Big Dye; 90% of reads Chemistry: Dye-primer Big Dye; 10% of reads Assembly program: Phrap; version 0.990399 Insert 512cs: 172000; agarcse-fp Quality coverage: 12.6x in Q20 bases; sum-of-contigs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 173364;
                                                                                                                                                                    Web site: http://chroma.mbt.washington.edu/msg_www
Contact: leerowen@systemsbiology.org
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             y Match 9.8%; Score 539; DB 69; I
Local Similarity 100.0%; Pred. No. 2.2e-292;
hes 539; Conservative 0; Mismatches 0;
                                                                                                  Center: Multimegabase Sequencing Center
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /clone="RP11-43D14"
                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence Quality Assessment:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /chromosome="15"
                                                                                                                                                    Center code: UWMSC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /map="15q14"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1. .173364
```

g

δλ qq δ qq

ò

\* This sequence will be replaced \* by the finished sequence as soon as it is available and

```
FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QΩ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Submitted (20-JAN-2000) Multimegabase Sequencing Center, University of Washington, PO BOX 357730, Seattle, WA 98195, USA ON Mar 21, 2001 this sequence version replaced gi:8272664.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Rowen, L., Madan, A., Qin, S., Baradarani, L., Birditt, B., Bloom, S., Dors, M., Dickhoff, R., Fleetwood, P., Harrison, G., Kaur, A., Madan, A., Sequencing of human chromosome 15 D15S146-D15S117 region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia; Eutheria; Primates; Catarrhini; Hominidae, Homo.
1 (bases 1 to 157900)
                     2 (Dases I to 157900)

Rowen,L., Madan,A., Qin,S., Abbasi,N., Baradarani,L., Birditt,B., Bloom,S., Dors,M., Dickhoff,R., Fleetwood,P., Harrison,G., James,K., Kaur,A., Madan,A., Owen,M.P., Ratcliffe,A., Shaffer,T. and Hood,L.
                                                                                                     1377 gicaagaitacggactatagcaittctaagcgcctcgcagacaittgcaaggaggatgig 1436
                                                                             1437 tttgagcaaacccgagttcgttttagtgacaatgctctgccttataaaacggggaagaaa 1496
                                                                                                                                                                                                                                               HTG 21-MAR-2001
Homo sapiens chromosome 15 clone RP11-521C20 map 15q14, WORKING
DRAFT SEQUENCE, 6 ordered pieces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Center: Multimegabase Sequencing Center
Center code: UWMSC
Web site: http://chroma.mbt.washington.edu/msg_www
Contact: leerowen6systemsbiology.org
Contact: leerowen6systemsbiology.org
Sequencing vector: puc18; L08752
Chemistry: Dye-terminator Big Dye; 90% of reads
Chemistry: Dye-terminator Big Dye; 10% of reads
Assembly program: Phrap; version 0.990399
Insert size: 150000; agarose-fp
Quality coverage: 10.2x in Q20 bases; sum-of-contigs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HTG; HTGS_PHASE2; HTGS_DRAFT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            --- Genome Center
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AC021755.6 GI:13399357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       human.
                                                                                                                                                                                                                                                                                                                                                                                                              DEFINITION
                                                                                                                                                                                                                                                                                                                                                    RESULT 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AUTHORS
                                                                                                                                                                                                                                                                                                                                                                       AC021755
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOURCE
                                                                                                                                                                                                                                                                                     g
```

```
Db 52726 GGTGTCTGTGCTATTTCTGTACAGCTATAGAGATGACTACTACAGAATCTTATATAACC 52785
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           52846 GITGIACATTCATCATAATTTAAAATTAAAATTCTAAGAAGAGGCTGGGTGCAGTGGCTCA 52905
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5075 gttgtacattcatcataatttaaaattaaattctaagaaggctgggtgcagtggctca 5134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4955 ggtgtctgtgctatttctgtacagctatagagatgactactactacagaatcttattttaacc 5014
                                                                                                                                                                                                                                                                                                                                                                           /clone_lib="RPCI human BAC library 11"
/note="This clone overlaps RP11-43D14 and CTD-2006D8"
43137 a 35607 c 36148 g 42500 t 508 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5195 tgagaccagcctgagcaacaaagcaagaccccatctctataaaaaactaaaaaattagtt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5255 gggcatggtggcacatgcctgtagtcccagctactccagaggctgagatggatcatctga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 9.4%; Score 519; DB 66; Length 157900; Best Local Similarity 99.8%; Pred. No. 4.4e-281; Matches 569; Conservative 0; Mismatches 1; Indels 0;
the accession number will be preserved.

1 67961 contig of 67961 bp in length 68062 76767; contig of 8706 bp in length 76768 76867; gap of unknown length 79624 79523; contig of 8706 bp in length 79724 90362; contig of 10639 bp in length 79724 90362; contig of 10639 bp in length 90463 93020; contig of unknown length 90463 93020; contig of unknown length 93021 93120; gap of unknown length 93121 157900; contig of 64780 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               53266 GGGATATAATAATGCTTTCATATACCTGC 53295
                                                                                                                                                                                                                                                                                 /organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5495 gggatataataaatgctttcatatacctgc 5524
                                                                                                                                                                                                                                                                                                   /db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                             /clone="RP11-521C20"
                                                                                                                                                                                                                                              Location/Qualifiers
                                                                                                                                                                                                                                                                                                                          /chromosome="15"
                                                                                                                                                                                                                                                                                                                                          /map="15q14
                                                                                                                                                                                                                                                                                                                                                                                                                    BASE COUNT
                                                                                                                                                                                                                                                                source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              рp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        op
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      П
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δy
```

RESULT

estimates computed by the phrap assembly program.
All manually edited bases have been reduced to quality cero.
Quality levels above 40 are expected to have less than
1 error in 10,000 bp.
Base-by-base quality values are not generally visible from the GenBank flat file format but are available as part
of this entry's Asv.1 file.

This entry has been annotated with sequence quality

Sequence Quality Assessment:

NOTE: This is a 'working draft' sequence. It currently consists of 6 contigs. Gaps between the contigs are represented as runs of N. The order of the pieces is believed to be correct as given, however the sizes of the gaps between them are based on estimates that have provided by the submittor.

ö

us-09-515-806-1.rge

```
12 11111; control of 0.15 bp in length 11946; contig of 635 bp in length 17 12046; gap of 100 bp 100 bp 12 12046; contig of 635 bp in length 17 12046; gap of 100 bp 100 bp 12043; contig of 661 bp in length 18 13543; gap of 100 bp 100 bp 13 14312; contig of 665 bp in length 14 13543; gap of 100 bp 100 b
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8849: gap of 100 bp 19453: contig of 604 bp in length 19453: contig of 604 bp in length 20189: contig of 636 bp in length 12089: gap of 100 bp 100 bp 10042: gap of 100 bp 100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          41: gap of 100 bp
29807: contig of 666 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        07: gap of 100 bp
30480: contig of 573 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            30580: gap of 100 bp 31289: contig of 709 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9678 9777: gap of 100 bp
9778 10498: contig of 721 bp in length
10499 10598: gap of 100 bp
10599 11211: contig of 613 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         p of 100 bp contig of 647 bp in length
                                                  of 100 bp contig of 656 bp in length of 100 bp
                                                                                                                                                                                                                                                                                                                                 contig of 631 bp in length
                                                                                                                                                                                                                                                                                                                                                                      of 100 bp contig of 622 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  contig of 724 bp in length
contig of 615 bp in length
                                                                                                                                                              contig of 606 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           contig of 670 bp in length
                                                                                                                                                                                                        of 100 bp
contig of 663 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                          100 bp
                                                                                                                                                                                                                                                                                       100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   7113 17212: gap of 17213 17901: conf
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 22457: gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .9454 19553: gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            20289: gap of
                                                                                                                        1: gap of
5867: con
                                                                                                                                                                                                                                                                                           ): gap of 7361: con
                                                                                                                                                                                                                                                                                                                                                                  1: gap of
8083: con
                                                  5: gap of
5161: con
                                                                                                                                                                                                                7: gap of
6630: con
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3: gap of
9677: con
                                                                                                                                                                                                                                                                                                                                                                                                                                                     8183: gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           23104:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8853:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  18849:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     29808 29907:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 17213 179
17902 18001:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              11212 11311:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                12683 12782:
12783 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3444 13543:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4920 15019:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        16338 16437:
16438 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       21042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8953:
                                                                                                                                                                                                                                                                                                                                                                          7362 7461:
                                                                                                                                                                                                                                                                                               6730:
                                                          4505:
                                                                                                                                     5261:
                                                                                                                                                                                                                5967:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                30481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              86098
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        37498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1947
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         24617
                                                                                                                                     5162
                                                                                                                                                                                                                                                                                                                                                                                                                                                          8084
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     11043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            18002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Birren, B. Linton, L., Nusbaum, C., Lander, E., Allen, N., Anderson, S., Barna, N., Bastien, V., Boguslavkiy, L., Boukhgalter, B., Brown, A., Camperlano, A., Choepel, Y., Colangelo, M., Collins, S., Collymore, A., Cooke, P., Dehrellano, K., Dewar, K., Diaz, J.S., Dodge, S., Faro, S., Ferreira, P., Fitzhugh, W., Gage, D., Galagan, J., Gardyna, S., Ginde, S., Goyette, M., Graham, L., Grand-Pierre, N., Hagos, B., Heaford, A., Lakocque, K., Lamazares, R., Landers, T., Lehoczky, J., Levine, R., Landers, T., Lehoczky, J., Levine, R., Liu, G., McCarth, M., McGwan, P., McGwan, P., McGran, F., Marquis, N., Matthews, C., McCarthy, M., McMan, P., McGwan, P., McHowa, T., Meheeters, R., Meldrim, J., Meneus, L., McMan, P., McGwan, P., McGwan, P., McGwan, P., McGwan, P., Murphy, T., Naylor, J., Nguyen, C., Norbu, C. H., O'Connor, T., O'Donnell, P., O'Neill, D., Oliver, J., Peterson, K., Phunkhang, P., Pierre, M., Pollara, V., Raymond, C., Rosetta, R., Rieback, M., Riley, R., Rise, C., Rogov, P., Roman, J., Rosetti, M., Roy, A., Santos, R., Schauer, S., Schupback, R., Seman, S., Scojanovic, N., Strauss, N., Subramanian, A., Talamas, J., Tesfaye, S., Theodore, J., Travers, M., Travts, N., Travers, N., Travers, N., Travts, N., Travts, N., Travers, N., Travers, N., Travts, N., Travers, N., Travts, N.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Submitted (22-MAR-2001) Whitehead Institute/MIT Center for Genome Research, 320 Charles Street, Cambridge, MA 02141, USA All repeats were identified using RepeatMasker:
Smit, A.F.A. & Green, P. (1996-1997)
                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalla; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Center: Whitehead Institute/ MIT Center for Genome Research
                                                              ACUSUGEST 61029 bp DNA HTG 22-MAR-2001
HOME SAPIENSE CHROMOSOME 15 CIONE RP11-521C20 map 15, LOW-PASS
EFFORENCE CAMBITIME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NOTE: This record contains 82 individual sequencing reads that have not been assembled into contigs. Runs of N are used to separate the reads and the order in which they appear is completely arbitrary. Low-pass sequence sampling is useful for identifying clones that may be gene-rich and allows coverlap relationships among clones to be deduced. However, it should not be assumed that this clone will be sequenced to completion. In the event that
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   http://ftp.genome.washington.edu/RM/RepeatMasker.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        the record is updated, the accession number will
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        571 670: gap of 100 bp 1
671 1297: contig of 627 bp in length
1288 1397: gap of 100 bp 1
1398 2087: contig of 690 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        570: contig of 570 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Birren, B., Linton, L., Nusbaum, C. and Lander, E. Homo sapiens chromosome 15, clone RP11-521C20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ---- Genome Center
                                                                                                                                                                                                                                 AC090997.1 GI:13431057
HTG; HTGS_PHASE0.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (bases 1 to 61029)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (bases 1 to 61029)
                                                                                                                                                      SEQUENCE SAMPLING.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   be preserved.
                                                                                                                                                                                                                                                                                                                                                              Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Unpublished
                                                                                                                                                                                                                                                                                                                            numan.
                                                                                                                DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                          ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               JOURNAL
REFERENCE
                                                                                                                                                                                               ACCESSION
                                                                                                                                                                                                                                     VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AUTHORS
                                     AC09097
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMMENT
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 211; DB 78; Length 61029;
Pred. No. 5.7e-107;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4380: contig of 622 bp in length 44618: contig of 638 bp in length 4718: gap of 100 bp 100 bp 118: gap of 100 bp 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
p of 100 bp
contig of 708 bp in length
p of 100 bp
contig of 717 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    37964: gap of 100 bp 38626: contig of 662 bp in length 38726: gap of 100 bp 39348: contig of 622 bp in length 39448: gap of 100 bp 40072: contig of 624 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  40982: gap of 100 bp
41705: contig of 723 bp in length
41805: gap of 100 bp
42512: contig of 607 bp in length
42512: gap of 100 bp
42512: gap of 100 bp
43158: contig of 646 bp in length
                                                                                                                                                                                            33014; gap of 100 bp
337818; contig of 604 bp in length
3718; gap of 100 bp
34358; contig of 640 bp in length
                                                                                                                                                                                                                                                                                                                                                                                         ρ of 100 bp contig of 519 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               p of 100 bp contig of 612 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 86; gap of 100 bp 13703: contig of 606 bp in length 92; app of 100 bp in length 37864: contig of 672 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      p of 100 bp contig of 710 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              188: gap of 100 bp 100 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      95; gap of 100 bp 49021; contig of 626 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       11: gap of 100 bp 10825: contig of 704 bp in length 50543: contig of 618 bp in length 43: gap of 100 bp 100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                89: gap of 100 bp
36386: contig of 597 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       51266: contig of 623 br
66: qap of 100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0; Mismatches
                                                                                                                                                                                                                                                                                                                                                     July gap of 34977:
                                                                                                                                                                                       33014: gap of
33618: cont
gap of
                                                                                                gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          : gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  45459: gap of
46088: cont
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      44718: gap of
45359: cont
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            50644 51266: cont
51267 51366: gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9022 49121: gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3.8%;
                                                                                                                                         32914:
                                        32097:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       35689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              40882
                                                                                                2098 32197:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                40172:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                         34458:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 36486:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  37192:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          43980:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    43258:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          17643 47742:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   46188:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    46955:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                48395:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         50544 50643:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                35789
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          35077
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             49925
                                                                                                                                                                                                                                                                                   33619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              40173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 10883
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           41806
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          10983
```

```
ö
                                                                   48043 AGCAAGACCCCATCTCTATAAAAACTAAAAAATTANTTGGGCATGGTGGCACATGCCTG 48102
                                                                                                                                          5216 agcaagaccccatctctataaaaactaaaaaattayttgggcatggtggcacatgcctg 5275
                                                                                                                                                                                                                                                                                 5336 agtgagctgtgactgcgccactgcactccagtctgggacaacagagcaagaccctgtctt 5395
                                                                                                                                                                                                            5276 tagtcccagctactccagaggctgagatggatcatctgagcctcaggaggttgaggctgc
                                                                                                                                                                                                                                             48103 TAGTCCCAGCTACTCCAGAGGCTGAGATCATCATCTGAGCCTCAGGAGGTTGAGGCTGC
Query Match
Best Local Similarity
                                  Matches 311;
                                                                       Qy
                                                                                                        g
                                                                                                                                                                           g
                                                                                                                                          δ
                                                                                                                                                                                                            ó
                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                   ŏ
```

```
RS Birren, B., Linton, L., Nusbaum, C., Lander, E., Allen, N., Anderson, S., Birren, B., Linton, L., Nusbaum, C., Lander, E., Allen, N., Anderson, S., Birren, B., Linton, L., Boguslavkiy, L., Boukhgalter, B., Brown, A., Camarata, J., Camapopiano, A., Chang, J., Choepel, Y., Colangelo, M., Collins, S., Collymore, A., Cooke, P., DeArellano, K., Dewar, K., Diaz, J.S., Dodge, S., Ferreira, P., Fitzhugh, W., Gage, D., Galdgan, J., Gardyns, S., Ginde, S., Goyette, M., Grahm, L., Hulme, W., Illev, I., Johnson, R., Jones, C., Karatas, A., Lakocque, K., Lamazares, R., Landers, T., Lenfoczky, J., Levine, R., Liu, G., MacChan, C., Macdonald, P., Marquis, N., Matthews, C., McCarthy, M., McDwan, P., McKernan, K., McDheeters, R., Meldfill, J., Meneus, L., Mhova, T., Manga, V., Murphy, T., Naylor, J., Nguyen, C., Norbu, C., Norman, C.H., O'Connor, T., O'Donnell, P., O'Neil, D., Oliver, J., Peterson, K., Phunkhang, P., Pierre, N., Pollara, V., Raymond, C., Retta, R., Rieback, M., Riley, R., Rise, C., Roqov, P., Roman, J., Severy, P., Sougnez, C., Spencer, B., Stanger, Theodore, J., Travers, M., Travis, N., Subramann, N., Young, G., Zainoun, J., Zembek, L., Zimmer, A. and Zody, M., Santos, R., Wwann, D., Ye, W.J., Young, G., Shimitted, J., Wand, J., Mand, J., Wand, J., Wan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Submitted (22-MAR-2001) Whitehead Institute/MIT Center for Genome Research, 320 Charles Street, Cambridge, MA 02141, USA All repeats were identified using RepeatMasKer:
Smit, A.F.A. & Green, P. (1996-1997) http://ftp.genome.washington.edu/RM/RepeatMasker.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
------ Genome Center
Center: Whitehead Institute/ MIT Center for Genome Research
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACCUSUS A CONTROL OF THE TOWN 
                                                                                                                                                                                 5396 aaaaaaaaaaaaaaaaaaaaaattttttttttctaagaagctgtcctacaaagttgagctttg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        * sequencing reads that have not been assembled into contigs. Runs of N are used to separate the reads and the order in which they appear is completely arbitrary. Low-pass sequence sampling is useful for a identifying clones that may be gene-rich and allows overlap relationships among clones to be deduced. * However, it should not be assumed that this clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Web site: http://www-seq.wi.mit.edu
Contact: sequence_submissions@genome.wi.mit.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 (bases 1 to 61029)
Birren,B., Linton,L., Nusbaum,C. and Lander,E.
Homo sapiens chromosome 15, clone RP11-521C20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NOTE: This record contains 82 individual
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Project Information
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Center project name: L13141
Center clone name: 521_C_20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AC090997.1 GI:13431057
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Center code: WIBR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Db 48283 TTAGTTTTCATG 48295
                                                                                                                                                                                                                                                                                                                                                                                                                                 5456 ttagtttttcatg 5468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HTG; HTGS_PHASE0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AC090997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 12
AC090997/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 JOURNAL
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOURCE
                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                       ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                        δŏ
```

```
will be sequenced to completion. In the event that the record is updated, the accession number will
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1354 14312; contig or our or 14313 14312; gap of 100 bp 14313 14312; gap of 100 bp 14313 14312; gap of 100 bp 15020 15019; gap of 100 bp 15681 15780; gap of 100 bp 15781 1581 15831 16437; gap of 100 bp 1578 1437; gap of 100 bp 16438 17112; contig of 675 bp in length 17113 17212; gap of 100 bp 17713 17212; gap of 100 bp 17713 17213 17901; contig of 689 bp in length 17213 17901; contig of 689 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      11 7361: gap of 100 bp 7361: contig of 631 bp in length 7361: contig of 631 bp in length 100 bp 8083: contig of 622 bp in length 100 bp 84 8183: gap of 100 bp 100 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2046: gap of 100 bp 12682: contig of 636 bp in length 2782: gap of 100 bp 13443: contig of 661 bp in length 3543: gap of 100 bp 100 bp 14212: contig of 669 bp in length 1353: contig of 669 bp in length 1353: contig of 669 bp in length 1353: contig of 690 bp in length 1353: contig of 690 bp in length 1353: contig of 650 bp in len
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   157: gap of 100 bp 23104: contig of 647 bp in length 2044; gap of 100 bp 23840: contig of 636 bp in length 340: gap of 100 bp 100 bp 24516: contig of 576 bp in length 24516: contig of 576 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4517 24616; gap of 100 bp
4617 25314; contig of 698 bp in length
318 25414; gap of 100 bp
15415 26037; contig of 623 bp in length
6038 26137; gap of 100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9678 9777; gap of 100 bp 10499 10499 10598; contig of 721 bp in length 10499 10598; gap of 100 bp 11211; contig of 613 bp in length 11212 11311; gap of 100 bp 11312 11946; contig of 635 bp in length 11312
                                                                                                                                       570: contig of 570 bp in length 670: gap of 100 bp 1297: contig of 627 bp in length 1397: gap of 100 bp 2087: contig of 690 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4505; gap of 100 bp 5161: contig of 656 bp in length 5261; gap of 100 bp 5867: contig of 606 bp in length
                                                                                                                                                                                                                                                                                   100 bp
of 690 bp in length
                                                                                                                                                                                                                                                                                                                                                                                       100 bp
of 769 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100 bp –
of 615 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              of 100 bp contig of 663 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 of 100 bp contig of 634 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                         contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cont.; gap of 22357;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             12046: gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3056: gap of
3690: con
                                                                                                                                                                                                                                                                                                                                                                                                 7: gap of
2956: con
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3790: gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          6630:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4405:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        23204:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3444 13543:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       23940:
                                                                                                                                                                                                                                                                                                                                                                                       2187:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       12782:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  22457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5967:
                                                                                                         be preserved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             23105
23205
23841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3791
1406
1506
5162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  7362
7462
8084
8184
8854
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       6631
```

```
20138 2269; cont.g of 666 bp in length 226850 22849; capt of 100 bp 226850 23859; gap of 100 bp 226850 23859; gap of 100 bp 226860 2359; gap of 100 bp 226829; cont.g of 666 bp in length 22682 23901; gap of 100 bp 226829; cont.g of 666 bp in length 22682907; gap of 100 bp 226829; cont.g of 666 bp in length 226829; gap of 268296; gap of 28829; gap
```

Query Match 3.1%; Score 171; DB 78; Length 61029; Best Local Similarity 100.0%; Pred. No. 2.4e-84; Matches 171; Conservative 0; Mismatches 0; Indels 0; Gaps

ö

g

ŏ

δŏ

```
source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Rowen, L., Madan, A., Qin, S., Abbasi, N., Baradarani, L., Birditt, B., Bloom, S., Dors, M., Dickhoff, R., Harrison, G., James, R., Madan, A., Dickhoff, R., Harrison, G., James, R., Madan, A., Direct Submission

Submitted (26-00T-1999) Multimegabase Sequencing Center, University of Washington, Po Box 357730, Seattle, WA 99195, USA

of Marington, Po Box 357730, Seattle, Post Sea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
Rowen,L., Madan,A., Qin,S., Baradarani,L., Birditt,B., Bloom,S., Burke,J., Dors,M., Fleetwood,P., Kaur,A., Madan,A., Nesbitt,R., Pate,D. and Hood,L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         estimates computed by the Phrap assembly program.
All manually edited bases have been reduced to quality zero.
Quality levels above 40 are expected to have less than
1 error in 10,000 bp.
Base-by-base quality values are not generally visible from the GenBank flat file format but are available as part
of this entry's Asv.1 file.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HTG 13-APR-2001 HTG 13-APR-2001 SEQUENCING IN PROGRESS ***, 1 ordered pieces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   is believed to be correct as given, however the sizes of the gaps between them are based on estimates that have provided by the submittor.
This sequence will be replaced by the finished sequence as soon as it is available and the accession number will be preserved.

I 197610: contig of 197610 bp in length.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Center code: UWMSC
Web site: http://chroma.mbt.washington.edu/msg_www
Contact: leerowen@systemsblology.org
Sequencing vector: pUC18; L08752
Chemistry: Dye-treminator Big Dye; 90% of reads
Chemistry: Dye-tremine Big Dye; 10% of reads
Chemistry: Dye-primer Big Dye; 10% of reads
Assembly program: Phrap; version 0.990399
Insert size:197000; agarose-fp
Quality coverage: 13x in Q20 bases; sum-of-contigs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequencing of human chromosome 15 D15S146-D15S117 region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NOTE: This is a 'working draft' sequence. It currently consists of 1 contigs. Gaps between the contigs are represented as runs of N. The order of the pieces
                                                                                                                                                                                                                                                                                                                                                                                                                                      Db 13007 AAATTATCTAGACTATCTATGAAATCATCCAAGAGTTTCCAGCACTTCAGG 12957
                                                                                                                                                                                                                                                                                                                                                                           3589 aaattatctacactatctatgaaatcatccaagagtttccagcacttcagg 3639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This entry has been annotated with sequence quality
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Center: Multimegabase Sequencing Center
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HTG; HTGS_PHASE2; HTGS_ACTIVEFIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence Quality Assessment:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AC012377.4 GI:13621218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (bases 1 to 197610)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (bases 1 to 197610)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           197610 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AC012377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AC012377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOURCE
```

Location/Qualifiers

FEATURES

```
Nopublished

Sirren, B., Linton, L., Nusbaum, C., Lander, E., Allen, N., Anderson, M., Bliren, B., Linton, L., Nusbaum, C., Lander, E., Allen, N., Anderson, M., Baldwin, J., Barna, N., Beckerly, R., Boguslavkiy, L., Boukhgalter, B., Brown, A., Castle, A., Colangelo, M., Domino, M., Donelan, L., Doyle, M., Ferreira, P., Fitzhquy, M., Forrest, C., Funke, R., Gage, D., Galagan, J., Gardyna, S., Grant, G., Hagos, B., Heaford, A., Horton, L., Howland, J.C., Johnson, R., Jones, C., Mand, L., Karatas, A., Klein, J., Lehoczky, J., Lieu, C., Locke, K., Maddonald, P., Marquis, N., McEwan, P., McGurk, A., McKernan, K., McLaughlin, J., Meldrim, J., Morrow, J., Naylor, J., Norman, C. H., O'Connor, T., O'Connoll, P., Peterson, K., Pollara, V., Riley, R., Subramanian, A., Talamas, J., Tesfaye, S., Tirrell, A., Vassliev, H., Vo, A., Wheeler, J., Wu, X., Wiman, D., Ye, W., J., Zimmer, A. and Zody, M. Wheeler, J., Wu, X., Direct Submission Street, Cambridge, MA 02141, USA On Jul 7, 2000 this sequence version replaced gi:7230052.

All repeats were identified using RepeatMasker:
Smit, A.F.A. & Green, P. (1996-1997)
http://ftp.genome.washington.edu/RM/RepeatMasker.html
                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AC012138 164297 bp DNA HTG 07-JUL-2000
Homo sapiens clone RP11-10K15, WORKING DRAFT SEQUENCE, 34 unordered
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Db 188078 AGGTGATCATTGAACTGGCTTACCACGTGCACTTTCTCAGCGAGCATAACAAGC 188137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 164297).

Birren, B., Linton, L., Nusbaum, C. and Lander, E.

Homo sapiens, clone RP11-10K15

Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Center: Whitehead Institute/ MIT Center for Genome Research
                                                                                                                                                                                                                                                                                                                                                                                                                                           421 aggigatgatettigaaetggettaecaegtgeagteatteteagegageataacaage 480
                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                        /clone_lib="human RPCI BAC library 11" /note="This clone overlaps RP11-37C7 and RP11-43D14" 61560 a 41034 c 39114 g 55902 t
                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                        Length 197610;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Web site: http://www-seq.wi.mit.edu
Contact: sequence_submissions@genome.wi.mit.edu
------ Project Information
                                                                                                                                                                                                                                                                                                                                                                                      0; Indels
                                                                                                                                                                                                                                                                                                                  Query Match 2.8%; Score 155; DB 62; Best Local Similarity 100.0%; Pred. No. 3e-75; Matches 155; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Db 188198 GGCTGTTGGAGGCCAAGCGGAAAGAAGAGAGAGAG 188232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                541 ggctgttggaggccaagcggaaagaagcaggag 575
/organism="Homo sapiens"
                        /db_xref="taxon:9606"
/chromosome="15"
                                                                                                                  /clone="RP11-325N19"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AC012138.4 GI:8954133
HTG; HTGS_PHASE1; HTGS_DRAFT
                                                                                      /map="15q14"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Center code: WIBR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          oieces
                                                                                                                                                                                                      BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 14
AC012138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOURCE
```

```
/note="assembly_fragment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                source
                                                                                                                                                                                                                                                                                                                                                                                          FEATURES
Assembly program: Phrap; version 0.960731

Consensus quality: 142640 bases at least Q40

Consensus quality: 152432 bases at least Q40

Consensus quality: 157096 bases at least Q20

Insert size: 153000; agarose-fp

Insert size: 160397; sum-of-contigs

Quality coverage: 3.4 in Q20 bases; agarose-fp

Quality cov.

* NOTE: This is a 'working draft' sequence. It currently

* consists of 34 contigs. The true order of the pieces

* is not known and their order in this sequence record is

* arbitrary. Gaps between the contigs are represented as

* runs of N, but the exact sizes of the gaps are unknown.

* This record will be updated with the finished sequence

* as soon as it is available and the accession number will

* be preserved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               12257 12256: gap of 100 bp 12357 12356: gap of 100 bp 14249 14348: contig of 1992 bp in length 14349 15680: contig of 1332 bp in length 15681 15780: gap of 100 bp 15781 17340: contig of 1353 bp in length 17341 17340: gap of 100 bp 17341 18693: contig of 1353 bp in length 18694 18793: gap of 100 bp 20813 20912: gap of 100 bp 20813 20913 24906: contig of 3944 bp in length 100 bp 20913
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8454 8553; gap of 100 bp 8524 9920; contig of 1267 bp in length 9821 9920; gap of 100 bp 9921 10938; contig of 1018 bp in length 1039 11336; contig of 1218 bp in length 12257 12356; contig of 1892 bp in length 12257 12356; contig of 1892 bp in length 12357 14248; contig of 1892 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   59813 59912: gap of 100 bp
59913 63066: contig of 3154 bp in length
63067 63166: gap of 100 bp
63167 70627: contig of 7461 bp in length
70628 70727: gap of 100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         126: gap of 100 bp 34159: contig of 5133 bp in length 159: gap of 100 bp 137975: contig of 3716 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          67: gap of 100 bp 59812: contig of 5945 bp in length 12: gap of 100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                25006: gap of 100 bp 28926: contig of 3920 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 55: gap of 100 bp 48039: contig of 3984 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          p of 100 bp contig of 5628 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 1064: contig of 1064 bp in length
1065 1164: gap of 100 bp
1165 2366: contig of 1202 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3640: gap of 100 bp 4861: contig of 1221 bp in length 4961: gap of 100 bp 4961: gap of 100 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     of 100 bp
contig of 1174 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     7342: gap of 100 bp 8453: contig of 1111 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 37976 38075; gap of 100 bp in length
38076 43955; contig of 5880 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100 bp
of 1074 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cont ; gap of 53767;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              18927 29026: gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2367 2466; gap of
2467 3540; coi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     6068: gap of
7242: co
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    44055:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            18040 48139:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           34160 34259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          53768 53867
53868 59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     7243
                                                                                                                                          reads
```

```
123245 123344: gap of 100 bp 123345 135427: contig of 12083 bp in length 135428 135527: gap of 100 bp 135528 147434: contig of 11907 bp in length 147435 147534: gap of 100 bp 16763 bp in length 167535 164297: contig of 16763 bp in length.
                                                                           94603 94702: gap of 100 bp 94703 104094 104093; contig of 9391 bp in length 104094 104194 112395; contig of 8202 bp in length 112396 112495; gap of 100 bp 112495; gap of 100 bp 112496 123344; contig of 10749 bp in length
             77801: gap of 100 bp
85553: contig of 7752 bp in length
85653: gap of 100 bp
94602: contig of 8949 bp in length
77701: contig of 6974 bp in length
                                                                                                                                                                                                                                                                                                                                             /clone_lib="RPCI-11 Human Male BAC"
1, .1064
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          vector_side:left"
38076. .43955
/note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  53868. .59812
/note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note="assembly_fragment"
6069, .7242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5069. .7242
/note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     44056. .48039
/note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                48140. 53767 /-
/note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                       'note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                        1165. .2366
/note="assembly_fragment"
2467. .3540
/note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3641. .4861
/note="assembly_fragment"
4962. .5968
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   7343. .8453
/note="assembly_fragment"
8554. .9820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3554. .9820
/note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     34260. 37975
/note="assembly_fragment
                                                                                                                                                                                                                                                                                                        /organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                         /clone="RP11-10K15"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        clone_end:T7
```

clone\_end:SP6

```
ó;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ARGRVREPPEINLVLYPOGLAGEEVYVQVELQVKCPPTYPDVVPEIELKNAKGLSNES
VNLLKSHLEELAKKQCGEVMIFELAHHVQSFLSEHNKPPPKSFHEEMLERQAQEKQOR
LLEARRKEEQEQREILHEIQRRKEEIKEEKKRKEMAKQERLEITSLTNQDYASKRDPA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /translation="MAGGRGASGRGRAEPQESYSQRQDHELQALEAIYGSDFQDLRPD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GHRAAAILHGGSPDFVGNGKARTYSSGRSRRERQYSVCSGEPSPGSCDILHFSVGSPD
QLMVHKGRCVGSDEQLGKVVYNALETATGSFVLLHEWVLQWQKMGPCLTSQEKEKIDK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ciencias,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus. 1 (bases 1 to 5212)
Berlanga,J.J., Santoyo,J. and De Haro,C.
Characterization of a mammalian homolog of the GCN2 eukaryotic initiation factor 2alpha kinase
Eur. J. Blochem. 265 (2), 754-762 (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Submitted (30-JUN-1999) Berlanga J.J., Gene Expression, Centro de Biologia Molecular 'Severo Ochoa' (CSTC-UAM), Facultad de Ciencias Universidad Autonoma de Madrid, Cantoblanco, Madrid, 28049, SPAIN Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                     655 aggaacgtttggaaattgctagtttgtcaaaccaagatcatacctctaagaaggacccag 714
                                                                                                                                                                                                                                                                                       0; Indels 0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       15-OCT-1999
                                                                                                                                                                                                                                                 Length 164297;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MMU243533 5212 bp mRNA ROD
Mus musculus mRNA for GCN2 eIF2alpha kinase.
AJ243533
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /function="translational control"
                                                                                                                                                                                                                                            2.8%; Score 152; DB 62;
100.0%; Pred. No. 1.5e-73;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /product="GCN2 eIF2alpha kinase"
                63167...70627

/note="assembly_fragment"

/0728...7701

/7802...85533

/note="assembly_fragment"

85654...94602

/note="assembly_fragment"

94703...104093

/note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          51219 AACATCGGGCAAACTCCTCAGGAAGGTCTAGG 51250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     775 aacatcgggcaaactcctcaggaaggtctagg 806
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1. .5212
/organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /protein_id="CAB58363.1"
/db_xref="G1:6066585"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCN2 eIF2alpha kinase; GCN2 gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /strain="Balb/C"
/db_xref="taxon:10090"
vector_side:left"
63167. .70627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AJ243533.1 GI:6066584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /gene="GCN2"
93. .5039
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /gene="GCN2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2 (bases 1 to 5212)
Berlanga,J.J.
                                                                                                                                                                                                                                                                                  Matches 152; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mus musculus
                                                                                                                                                                                                                                                                  Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      house mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99435990
                       misc_feature
                                                             misc_feature
                                                                                                                                           misc_feature
                                                                                                                                                                                 misc_feature
                                                                                                     misc_feature
                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MMU243533
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                         ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qγ
```

```
CKROLOGAETEESSLVKLSHPNIVRYPAMNSREEDSITVDILAEHVGSISLATHLSH
SGPVPAHQLRXTTAQLLAGLDYLHSNSVVHKVLSASSVLVDAEGTVK ITDYSISKRLA
DICKEDVFEQARVRESDSALPYKTGKKGDVWRLGLLLLSLSGGGCGCGETVTITESDLP
DICKEDVFEQARVRESDSALPYKTGKKGDVWRLGLLLLSLSGGGCGCGETVTITESDLP
ADFODFLKKOVLDLDKERWSPOOLLKHSFINPOPKLPLVEGSEBDSGGODYIETVIPSDLP
ADFODFLKKOVLDLSRYDAAPPILSSSVEWSTSARERTGRPPTGCCTPQAODSPATC
GKTGGOTTEELGSVERAAPPILSSSVEWSTSARERTGRPPTGODSSSDEEDERD
GVFSQSFLPASDSDSDIIFDNEDENSKGONDEDCONGKGSHEITEPSVTARAVHYLYI
OMEYCEKSTLPADTIDOGLERONSKGONDEDCONGKGSHEITEPSVTARAVHYLYI
OMEYCEKSTLPADTIDOGLERONSKGONDEDCONGKGSHEITEPSVTARAVHYLYI
OMEYCEKSTLPADTIDOGLERONSKENDRILBFENDAGHTCANTIDGRAYFRHODGENTK
OKSOSFLPASDSDSDIIFFNONSKLWRLFREILDGLAYTHRDLKFWYIFTRANTDGRAYRTHM
GVFSQSFLPASDSDSDIIFFNONSKLWRLFREILDGLAYGTHTAWIDGRAYRTHM
OKSOSFLANDLAFTAGEKODDQAGGOYIKSDSGHLTGAWGTALYVSPROGS
TKSAYNGWULFSLAIIFFNONSKLWRLFREENDENSKLHTTANTIDGRAYRTHM
SOIFCOHISPAIDTYDSDIIKGWFLIRTAATQOLVCETIVRYFRRHAAVOLCTFLLL
PRUNGUYTEHNEALFMDHSGMLWUFPDLRYVBARNYNINILNIKRYCIFRYRFRK
LDRRHPKELLECAFDLYYTTWSSLPTATTYTYEIIQEFPALGERNYSTRYKITED
KATLIHCGIPPENSKRSCHVWYNETENDENKFURRYGYNGYNGYSTAID
OCHTGIIFOPLAFSKRROWYDFILAAGGRYDLILPRREGOTYGWPOPPAVGYSTAID
KRANVUNKEEPPVYSSCDLLVVSVGOMSWSRAINITORKLWRAGITAEINYDAGSGGE
ELOEYCRHHEITYVALVSDKEGSHWYWSFERENDENFRRKLASELSDLVDHVMGKTRYVG
DERNRRDASDLRAVOTLKGSFERENDENFRIEL
KQNYLKLVCDETINIKVEKKVSVLFLYSTRDDYYRILF"
KQNYLKLVCDETINIKVEKKVSVLFLYSTRDDYYRILF"
```

polyA\_signal 5194. 5199 /gene="GCN2" ABASE COUNT 1417 a 1304 c 1341 g 1150 ORIGIN Query Match 1.6%; Score 89; DB 94; Length 5212; Best Local Similarity 100.0%; Pred. No. 4.3e-38; Matches 89; Conservative 0; Mismatches 0; Indels 0; Gaps

ö

Oy 4885 cacgcctgccaaagcaaagatacctcaaa 4913

Db 4912 CACGCCTGCCAAAGCAAAGATACCTCAAA 4940

Search completed: October 21, 2001, 23:39:56 Job time: 19307 sec